CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD

A Compilation of
Water Quality Goals

August 2003
with tables updated August 2007

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

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DISCLAIMER

This publication is a technical report by staff of the California Regional Water Quality Control Board, Central Valley Region. No policy or regulation is either expressed or intended.

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

PREFACE TO THE AUGUST 2007 UPDATE EDITION

This edition of the Central Valley Water Board staff report, *A Compilation of Water Quality Goals*, supersedes the August 2003 edition and all other editions and updates published prior to August 2003. Earlier editions and updates should be discarded, as they contain outdated information. This new edition contains water quality limit information that is current as of mid-August 2007.

While the text of the August 2007 Update Edition is the same as in the August 2003 Edition, the tables contain new and updated numerical water quality limits from a variety of sources, including:

- California Maximum Contaminant Levels for drinking water from the California Department of Public Health (CDPH), formerly the Department of Health Services (CDHS);
- State Notification Levels for drinking water (formerly called Action Levels) (CDPH);
- California Public Health Goals for drinking water from the California Environmental Protection Agency (Cal/EPA), Office of Environmental Health Hazard Assessment (OEHHA);
- Cancer risk estimates from the Cal/EPA Toxicity Criteria Database, maintained by OEHHA;
- Drinking Water Standards (MCLs) and Health Advisories from USEPA;
- Reference doses and cancer risk limits from the Integrated Risk Information System (IRIS) database, maintained by USEPA;
- Proposition 65 Safe Harbor Levels—No Significant Risk Levels for carcinogens and Maximum Allowable Dose Levels for chemicals causing reproductive toxicity;
- National Recommended (Ambient) Water Quality Criteria published by USEPA;
- Water quality objectives from the 2001 edition of the California Ocean Plan, adopted by the State Water Resources Control Board; and
- Hazard Assessments and Water Quality Criteria for pesticides, from the California Department of Fish and Game CDFG.

While not updated since the August 2003 Edition, the narrative *Selecting Water Quality Goals* contains information designed to help users to understand and select the most appropriate limits to implement California's water quality standards to protect the beneficial uses of surface water and groundwater resources. **To use this report correctly, it is necessary to read the enclosed narrative *Selecting Water Quality Goals* carefully before selecting numerical water quality limits from the tables.**

A Compilation of Water Quality Goals is a technical report by staff of the Central Valley Regional Water Quality Control Board. It is intended to assist in the appropriate interpretation of narrative water quality objectives. **This report does not, nor is it intended to, establish policy or regulation.**

The August 2007 Update Edition of *A Compilation of Water Quality Goals* and related information on water quality limits are available on the Central Valley Regional Water Board's internet web site at:

www.waterboards.ca.gov/centralvalley/available_documents/

under the link "Water Quality Standards & Limits." Hard copies of *Water Quality Goals* are available in person or by mail from the Reception Desk at

Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114
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Public agencies may receive a copy free of charge. A charge to private entities covers the cost of reproduction, shipping and handling. Please call for cost information. Payment, if applicable, must accompany all requests. Checks are to be made payable to the Central Valley Regional Water Quality Control Board.

If you have questions regarding this edition of the *Water Quality Goals* staff report, please contact me by telephone at (916) 464-4723 or by email at jmarshack@waterboards.ca.gov.

—Jon B. Marshack

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USING THIS REPORT

The remainder of this report is divided into five sections:

- Selecting Water Quality Goals
- Cross Reference of Chemical Names
- Water Quality Limits for Constituents and Parameters
- Footnotes
- References

Selecting Water Quality Goals — This section describes California's water quality standards that are designed to protect beneficial uses of groundwater and surface water resources. A process by which numerical limits from the published literature may be used to implement those standards is also presented. A ***glossary*** of commonly used terms is included at the end of this section.

Cross Reference of Chemical Names — This section provides an alphabetical listing of synonyms for the over 820 chemical constituents and parameters covered by this report. Many chemical constituents and parameters are commonly referred to by more than one name. **Look here first to find your chemical constituent or parameter of interest.** This section shows which name to use to find the constituent or parameter in the *Water Quality Limits* tables and indicates whether the constituent or parameter is organic (those chemicals for which their chemistry is dominated by that of the carbon atom) or inorganic (all other chemicals and parameters). Chemical Abstracts Service (CAS) Registry Numbers are also provided to help clarify the identity of most constituents.

To avoid incorrect use of the numerical water quality limits contained in this report, the author strongly recommends that the section **Selecting Water Quality Goals** ***be carefully reviewed.***

Water Quality Limits — This section contains tables of numerical water quality limits. Constituents and parameters are presented on groups of six consecutive pages, beginning with pages "***1a***" through "***1f***." The first five pages of the group contain tables of water quality limits for the constituents and parameters. The sixth page is a table of CAS Registry Numbers, common synonyms and abbreviations. The next six pages, "***2a***" through "***2f***," repeat these tables for the next set of constituents and parameters. This section contains sixteen sets of these tables. For any constituent or parameter of interest, **be sure to review all six pages containing listings for that constituent or parameter before selecting numerical limits**.

The numerical value of some water quality limits varies with the hardness, temperature, pH, or other characteristics of the waters to which they are applied. These variable limits for the protection of aquatic life from ammonia, heavy metals, and pentachlorophenol are presented in special tables and graphs on pages ***17*** through ***30*** of the *Water Quality Limits* section. Where a numerical limit varies in this manner, the number of the page which presents the variable limit is listed in the tables on pages ***1a*** through ***16f***.

Footnotes — Many listings in the tables contain footnotes within parentheses, e.g., "(122)." These footnotes, listed near the end of this report, explain limitations on how the numerical water quality limits apply and provide other useful information.

References — Literature sources, from which the numerical water quality limits were obtained, are provided at the end of this report. Where the reference information may be obtained on the internet, web addresses are also presented.

SELECTING WATER QUALITY GOALS

California clearly values its water resources, which are significantly limited in quantity and quality. Recurring periods of drought have demonstrated the magnitude and severity of these limits. At the same time, improper waste management practices and contaminated sites pose significant threats to the quality of California's usable groundwater and surface water resources. The state population is expected to increase by fifty percent over the next quarter century, while the population of the Central Valley is expected to double over the next twenty years. At the same time, there is a growing realization that additional water is also needed in-stream to restore and protect our valuable fisheries. Therefore, it is imperative that California manage the quality of its water resources to be able to serve the growing needs of agriculture, cities, and industries without impairing in-stream beneficial uses.

The purpose of this staff report of the Central Valley Regional Water Quality Control Board is to introduce California's water quality standards and to outline a system for selecting numerical water quality limits, consistent with these standards. The resulting numerical limits may be used to assess impacts from waste management activities or releases on the quality of waters of the state and the beneficial uses that they are able to support.

To determine whether a particular waste management activity or release has caused or threatens to cause adverse effects on water quality, it is necessary to apply California's water quality standards. These standards are found in the *Water Quality Control Plans* adopted by the State Water Resources Control Board and each of the nine Regional Water Quality Control Boards. At concentrations equal to or greater than these standards, constituents are considered to have unreasonably impaired the beneficial uses of the state's water resources; that is, pollution has occurred.

In many cases, water quality standards include narrative, rather than numerical, water quality objectives. In such cases, numerical water quality limits from the literature may be used to ascertain compliance with these standards.

Terminology

This report uses several terms that may not be familiar or may have different meanings in their common usage. Differences in legal definitions necessitate using these terms in specific ways in this report.

Water Quality Standards — Pursuant to the federal Clean Water Act, water quality standards are composed of two parts: (1) the designated uses of water and (2) criteria to protect those uses. Water quality standards are enforceable limits in the bodies of water for which they have been established.

Beneficial Uses — This is the California term for designated uses of water that are components of water quality standards. California law defines beneficial uses as uses of surface water and groundwater that must be protected against water quality degradation. Beneficial uses of water may be found in the *Water Quality Control Plans* adopted by the State Water Resources Control Board and the nine Regional Water Quality Control Boards.

Water Quality Criteria — These are numerical or narrative limits for constituents or characteristics of water designed to protect specific uses of the water under the authority of the federal Clean Water Act. This term has two separate meanings. Water quality criteria promulgated by the U.S. Environmental Protection Agency (USEPA) under Section 303(c) of the Clean Water Act are enforceable water quality limits that, when combined with designated uses of water, become water quality standards. Water quality criteria published under Section 304(a) of the act are advisory limits, used by states and tribes to develop their own water quality standards or to interpret narrative water quality standards.

Water Quality Objectives — Under the California Water Code, these are numerical or narrative limits for constituents or characteristics of water designed to protect beneficial uses of a body of groundwater or surface water. Water Quality Objectives for surface water have the same legal status as Section 303(c) water quality criteria under the federal Clean Water Act. Water quality objectives may be found in the *Water*

Quality Control Plans adopted by the State and Regional Water Boards.

Water Quality Limit — As used in this report, this term refers to a numerical water quality limit from the literature designed to protect specific uses of water. Water quality limits may be used to interpret narrative water quality objectives or criteria.

Beneficial Use Protective Water Quality Limit — As used in this report, this term refers to the most stringent of a set of applicable water quality criteria and objectives and relevant water quality limits used to interpret narrative criteria and objectives for a constituent or parameter of concern in a specific body of water. This limit is chosen to comply with all applicable water quality objectives and Section 303(c) criteria so as to protect all beneficial uses designated for the body of water in question. In no case is this limit more stringent than the natural background concentration of the constituent.

Additional information about these terms is presented below.

CALIFORNIA'S WATER QUALITY CONTROL SYSTEM

Realizing the limits on its water resources, California has developed a unique system to protect and control the quality of its most valuable resource. Our present system of water quality control was established in 1969, when the state legislature passed the Porter-Cologne Water Quality Control Act. Found in Division 7 of the California Water Code, the Porter-Cologne Act (on the web at http://www.swrcb.ca.gov/water_laws) provides for ten water quality control agencies: the State Water Resources Control Board and nine Regional Water Quality Control Boards. The Act instructs these boards to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

The State Water Board carries out its water quality protection authority through the adoption of *Water Quality Control Plans.* These plans establish water quality standards for particular bodies of water. California's water quality standards are composed of the beneficial uses of water plus water quality objectives to protect those uses. Implementation plans are also adopted to achieve and maintain compliance with the water quality objectives. *Water Quality Control Plans* adopted by the State Water Resources Control Board include:

- The Ocean Plan
- The Thermal Plan (temperature control in coastal and interstate waters and enclosed bays and estuaries)
- The Delta Plan (Sacramento-San Joaquin Delta and Suisun Marsh)
- The Lake Tahoe Basin Water Quality Plan

In the year 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*. This policy, also known as the State Implementation Policy or SIP, provides implementation measures for numerical criteria contained in the *California Toxics Rule*, promulgated by the U.S. Environmental Protection Agency (USEPA) also in 2000. When combined with the beneficial use designations in the *Water Quality Control Plans* adopted by the Regional Water Boards (*Basin Plans*; see below), these documents establish statewide water quality standards for toxic constituents in surface waters that are not covered by the *Ocean Plan*. This combined Water Board/USEPA action is the first phase in the development of new *Water Quality Control Plans* for California's inland surface waters and enclosed bays and estuaries.

The State Water Board also adopts regulations and other "policies for water quality control," which have the enforceability of regulation, to protect water quality from discharges of waste to water or to land where water quality could be adversely affected.

To account for the great diversity of California's waterscape, the Porter-Cologne Act divided the state, along major drainage divides, into nine Water Quality Control Regions (see the map on the inside back cover of this report). Nine Regional Water Quality Control Boards act to protect water quality within these regions through the adoption of region-specific *Water Quality Control Plans,* also called *Basin Plans.* The *Basin Plans* contain water quality standards that are specific to surface waters and groundwater within a particular region or a portion thereof. As with the State Water Board's *Water Quality Control Plans,* the *Basin Plans* contain beneficial use designations, water quality objectives, and implementation programs.

Through voluntary compliance, the use of best management practices to control discharges of waste,

and the issuance of waste discharge requirements (permits), water quality monitoring and reporting programs, and other enforceable orders, the State and Regional Water Boards implement the statewide and regional *Water Quality Control Plans*, policies for water quality control, and water quality regulations. Under delegation from USEPA, the State and Regional Water Boards also administer most of the federal clean water laws as they apply to California.

The focus of State and Regional Water Boards' water quality control programs is to prevent and correct conditions of pollution and nuisance. The Porter-Cologne Act defines "pollution" as "an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects:

(1) such waters for beneficial uses, or
(2) facilities which serve such beneficial uses."

"Nuisance" is defined as "anything which:

(1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property so as to interfere with the comfortable enjoyment of life or property, and
(2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal, and
(3) occurs during or as the result of the treatment or disposal of wastes."

WATER QUALITY STANDARDS

The term "water quality standards" is defined in regulations that implement the federal Clean Water Act. That definition reads:

"Water quality standards are provisions of state or federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act." [40 Code of Federal Regulations (CFR) Section 130.2(c) and 131.3(I)]

So, federal water quality standards must contain at least two critical components:

a) the designation of beneficial uses of water, and
b) the establishment of water quality criteria designed to protect those uses.

Antidegradation policies are also considered to be an integral part of federal water quality standards.

In California, the *Water Quality Control Plans* designate the beneficial uses of waters of the state and water quality objectives (the "criteria" under the Clean Water Act) to protect those uses. The *Water Quality Control Plans* are adopted by the State and Regional Water Boards through a formal administrative rulemaking process and, thereby, have the force and effect of regulation. As mentioned above, the California Toxics Rule criteria, adopted by USEPA, when combined with beneficial use designations in the *Water Quality Control Plans*, are also water quality standards. One critical difference between the state and federal programs is that while the Clean Water Act focuses on surface water resources, the term "waters of the state" under the Porter-Cologne Act includes both surface waters and groundwaters. Therefore, California has water quality standards that apply to groundwater as well as water quality standards that apply to surface waters. Another difference is that California's *Water Quality Control Plans* include implementation programs to achieve and maintain compliance with water quality objectives.

California's water quality standards are enforceable by the State and Regional Water Boards. To protect both existing and future beneficial uses, they normally apply throughout the bodies of surface water and groundwater for which they were established, rather than at points of current water use or withdrawal.

BENEFICIAL USES

Section 13050(f) of the Porter-Cologne Act defines beneficial uses as follows:

"'Beneficial uses' of waters of the state that may be protected against quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves."

The State and Regional Water Boards' *Water Quality Control Plans* list the specific beneficial uses established for each of California's surface water and groundwater bodies. For example, the Central Valley Region's *Basin Plans* lists the following beneficial uses of water:

- Municipal and Domestic Supply
- Agricultural Supply
- Industrial Supply (both Service and Process)
- Groundwater Recharge
- Freshwater Replenishment
- Navigation
- Hydropower Generation
- Recreation (both Water Contact and Non-Water Contact)
- Commercial & Sport Fishing
- Aquaculture
- Freshwater Habitat (both Warm and Cold)
- Estuarine Habitat
- Wildlife Habitat
- Preservation of Biological Habitats of Special Significance
- Preservation of Rare, Threatened, or Endangered Species
- Migration of Aquatic Organisms
- Spawning, Reproduction, and/or Early Development
- Shellfish Harvesting

The *Water Quality Control Plans* specify which beneficial uses apply to each body of surface water and groundwater within each region of the state. Under the Porter-Cologne Act, the discharge of waste is not a right, but a privilege, subject to specific permit conditions. The discharge of waste is also not a beneficial use of water. The Water Boards' mission is to protect the quality of the State's waters from discharges of waste that could cause impairment of designated beneficial uses.

SOURCES OF DRINKING WATER POLICY

Also included within California's system of water quality standards are the "policies for water quality control" adopted by the State Water Board and incorporated into each of the Basin Plans. The SIP, discussed above, is an example. Another policy for water quality control is critical to the designation of beneficial uses.

In 1988, the State Water Board adopted Resolution No. 88-63, *Adoption of Policy Entitled "Sources of Drinking Water."* This policy specifies that, except under specifically defined circumstances, all surface water and groundwater of the state are to be protected as existing or potential sources of municipal and domestic supply, unless this beneficial use is explicitly excepted in a *Water Quality Control Plan*. The policy lists specific circumstances under which waters may be excluded from this beneficial use, including:

- waters with existing high total dissolved solids concentrations (greater than 3000 mg/l);
- waters having low sustainable yield (less than 200 gallons per day for a single well);
- water with contamination, unrelated to a specific pollution incident, that cannot reasonably be treated for domestic use;
- waters within particular wastewater conveyance and holding facilities; and
- regulated geothermal groundwaters.

These exceptions to the general municipal and domestic supply beneficial use designation are applied to specific water bodies through formal Basin Plan amendments by the appropriate Regional Water Board.

WATER QUALITY OBJECTIVES

The second component of California's water quality standards is water quality objectives. The Porter-Cologne Act defines "water quality objectives" as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." Since pollution is defined as an alteration of water quality to a degree which unreasonably affects beneficial uses, pollution is considered to occur whenever water quality objectives are exceeded.

Water quality objectives designed to protect beneficial uses and prevent nuisance are also found in the *Water Quality Control Plans*. As with beneficial uses, water quality objectives are established either for specific bodies of water, such as the Sacramento River between Shasta Dam and the Colusa Basin Drain, or for protection of particular beneficial uses of surface waters or groundwaters throughout a specific basin or region. In addition, the water quality criteria for toxic pollutants in the *California Toxics Rule* apply to nearly all of the state's surface waters which are not covered by the *Ocean Plan*, i.e., to inland surface waters, enclosed bays and estuaries. These limits are called "criteria" (rather than "objectives") because they were promulgated by USEPA pursuant to the federal Clean Water Act.

Water quality objectives may be stated in either numerical or narrative form. Where numerical objectives are listed in the *Water Quality Control Plans*, their values are enforceable numerical limits for the indicated constituent(s) or parameter(s). If not exceeded, they are intended to provide reasonable protection for beneficial uses of the specified body of water. However, in many cases, water quality objectives are stated in narrative form. Narrative objectives describe a requirement or a prohibition. Examples of narrative objectives, established in the Central Valley Region's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, include:

- Chemical Constituents —
  "Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
  "At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in … Title 22 of the California Code of Regulations [California's drinking water standards] …
  "To protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs."
- Tastes and Odors —
  "Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses."
- Toxicity —
  "… waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s). This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effects of multiple substances."

The Central Valley Region's Basin Plans also contain water quality objectives for the following constituents and parameters:

- Bacteria
- Biostimulatory Substances
- Color
- Dissolved Oxygen
- Floating Material
- Oil and Grease
- Pesticides
- pH
- Radioactivity
- Salinity
- Sediment
- Settleable Material
- Suspended Material
- Temperature
- Turbidity

Some are expressed as numerical objectives, while others are in narrative form. Narrative water quality objectives may be interpreted through the selection of numerical limits, as further described below.

ANTIDEGRADATION POLICY

Water is a multiple-use resource. That is, the same water may be used many times between where it falls as rain or snow in the mountains and where it eventually flows into the ocean. Each use of water causes some change or degradation in its quality. Water quality can also be degraded by discharges of waste and other human activities. The combined effect of multiple water uses and waste discharges on water quality must be considered. If the Board allows a single use or discharge to degrade water quality to a level just sufficient to protect beneficial uses, then no capacity exists for further degradation by succeeding water uses or other human activities. The ability to beneficially use the water has been impaired, even though water quality objectives have not been exceeded.

In addition, our understanding of the health and environmental effects of chemicals and combinations of chemicals in water is constantly evolving. What is considered safe at 10 ug/L (ppb) today may be found to be harmful at 1 ug/L tomorrow. For these reasons, it is often desirable to prevent or to minimize the degradation of water quality to preserve a higher quality than that which will just support the next beneficial use, that is, to preserve water quality better than applicable water quality objectives.

Realizing this need in 1968, the State Water Resources Control Board adopted Resolution No. 68-16, *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. This established an

Antidegradation Policy for the protection of water quality in California. Under this policy, whenever the existing quality of water is better than that needed to protect existing and probable future beneficial uses, such existing high quality is to be maintained until or unless it has been demonstrated to the state that any change in water quality:

- will be consistent with the maximum benefit to the people of the state;
- will not unreasonably affect present or probable future beneficial uses of such water; and
- will not result in water quality less than prescribed in state policies.

Unless these three conditions are met, background water quality—the concentrations of substances in natural waters that are unaffected by waste management practices or contamination incidents—is to be maintained.

If the State or a Regional Water Board determines that some water quality degradation is in the best interest of the people of California, some incremental increase in constituent concentrations above background levels may be permitted under the Policy. However, in no case may such degradation cause unreasonable impairment of beneficial uses that have been designated for a water of the state.

The effect of this policy is to define a range of water quality—between natural background levels and the water quality objectives—that must be maintained. Within this range, the Water Boards must balance the need to protect existing high quality water with the benefit to California as a whole of allowing some degradation to occur from the discharge of waste.

The policy also specifies that discharges of waste to existing high quality waters are required to use "best practicable treatment or control," thereby imposing a technology-based limit on such discharges.

In more recent actions, the State Water Board further delineated implementation of the *Antidegradation Policy*. These include the adoption of monitoring and corrective action regulations and a cleanup policy.

CHAPTER 15, ARTICLE 5 REGULATIONS

In July 1991, the State Water Board adopted revised regulations for water quality monitoring and corrective action for waste management units—facilities where wastes are discharged to land for treatment, storage or disposal. These regulations, contained in Title 23 of the California Code of Regulations, Division 3, Chapter 15, Article 5, contain the only interpretation of the state's *Antidegradation Policy* that has been promulgated in regulations. Article 5 requires the Regional Water Board to establish water quality protection standards for all waste management units. Water quality protection standards include concentration limits for constituents of concern, which must be met in groundwater and surface water that could be affected by a release from the waste management unit.

Section 2550.4 of these regulations requires that, in most cases, concentration limits be established at background levels. However, in a corrective action program for a leaking waste management unit where the discharger of waste has demonstrated that it is technologically or economically infeasible to achieve background levels, the Regional Water Board may adopt concentration limits greater than background. The regulations require that these limits be set:

- at the lowest concentrations for the individual constituents which are technologically and economically achievable;
- so as not to exceed the maximum concentrations allowable under applicable statutes and regulations for individual constituents [including water quality objectives];
- so as not to result in excessive exposure to a sensitive biological receptor [as shown, for example, through health and ecological risk assessments]; and
- so that theoretical risks from chemicals associated with the release shall be considered additive across all media of exposure and shall be considered additive for those constituents that cause similar toxicologic effects or have carcinogenic effects.

CLEANUP POLICY

In June 1992, the State Water Board adopted Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*. This policy for water quality control, which was modified in April 1994 and October 1996, states that the *Antidegradation Policy* of Resolution No. 68-16 is applicable to the cleanup of contaminated sites, and that criteria in Section 2550.4 of the Chapter 15 regulations are to be used to set cleanup levels for such sites. *[For cleanup of leaking underground fuel tank sites, Section 2550.4 criteria are to be considered in setting cleanup levels*

under Chapter 16 of Title 23, Division 3 of the California Code of Regulations.] In determining cleanup levels for polluted water and for contaminated soils which threaten water quality, background constituent concentrations in water are the initial goal. If attainment of background concentrations is not achievable, cleanup levels must be set as close to background as technologically and economically feasible. They must, at a minimum, restore and protect all applicable beneficial uses of waters of the state, as measured by the water quality objectives, and must not present significant health or environmental risks.

NUMERICAL WATER QUALITY LIMITS

To determine whether a particular waste management activity or constituent release has caused or threatens to cause pollution—a degradation in water quality severe enough to impair present or probable future beneficial uses—one must refer to California's water quality standards. As described earlier, the standards consist of a beneficial use or uses of water and water quality objectives to protect those uses. According to the *Policy for Application of Water Quality Objectives* contained in the implementation chapter of both of the Central Valley Region's Basin Plans, narrative objectives must be interpreted and a numerical limit selected to implement the narrative objective. Once all beneficial uses, water quality objectives and numerical limits have been identified, those water quality limits that protect all applicable beneficial uses are selected for comparison with measured or projected constituent concentrations in the water body of interest. By such comparison, compliance with water quality standards may be determined.

The first step in selecting beneficial use protective water quality limits is to identify the bodies of groundwater and/or surface water that have been or have the potential to be affected by the particular waste management activity or constituent release. Under California's *Antidegradation Policy*, water quality limits are initially set equal to natural background levels in the body of water. Constituent concentrations in excess of these background levels in the water body, caused or threatened to be caused by a discharge of waste, indicate that water quality *degradation* has occurred or is threatened.

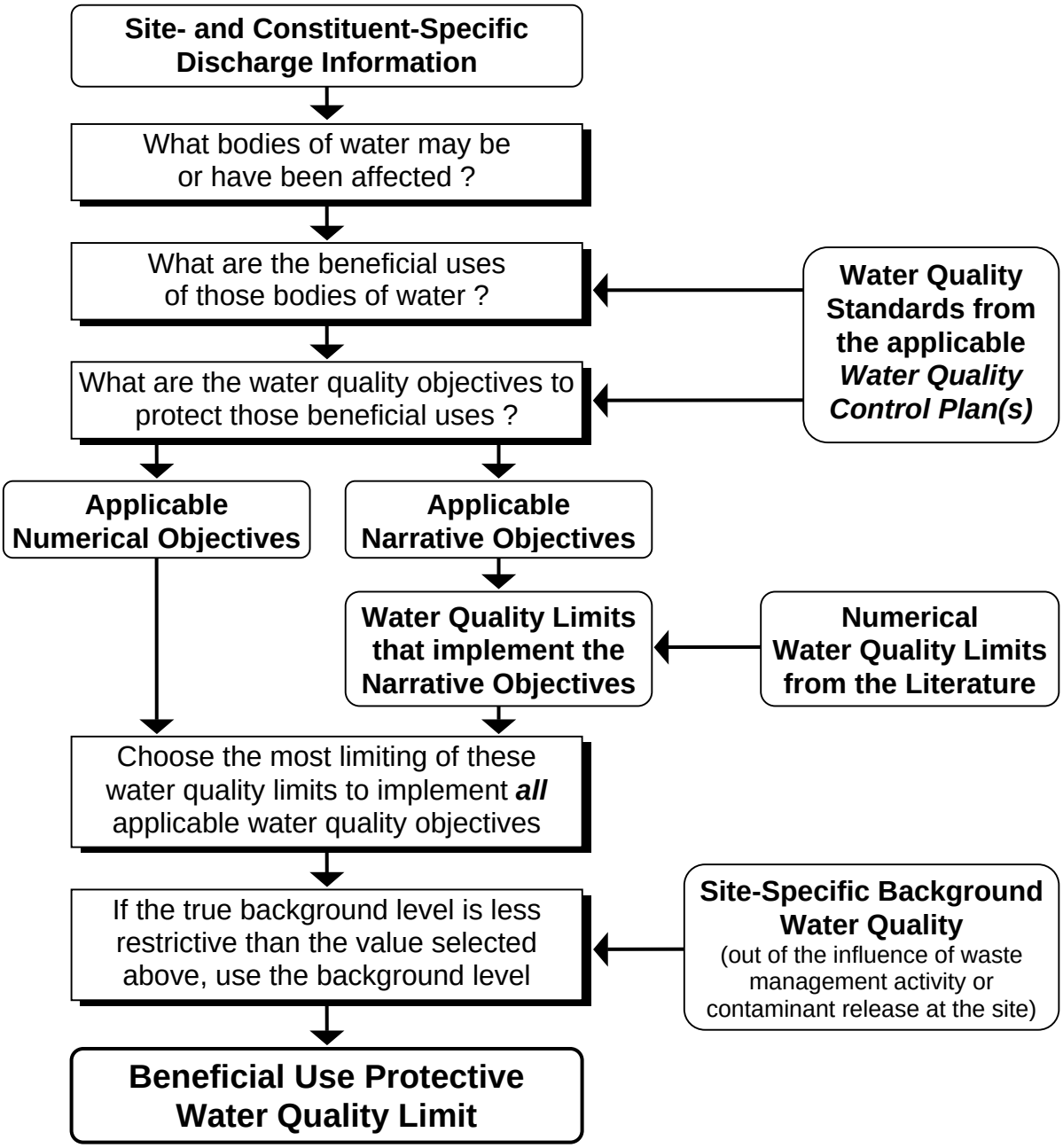
If degradation has already occurred, water quality limits should also be selected to determine whether *pollution* has occurred or is threatened. In this case, water quality limits are selected so as to ascertain compliance with all applicable water quality objectives for the protection of the beneficial uses designated for the water body in question. Designated beneficial uses and applicable water quality objectives to protect those uses are contained in the relevant *Water Quality Control Plan(s)*. The process of selecting beneficial use protective water quality limits to interpret these standards is shown in Figure 1.

Water quality objectives are numerical or narrative. The numerical objectives are a subset of the applicable beneficial use protective water quality limits. If narrative water quality objectives also apply to the constituent or parameter of interest in the water body, compliance with those objectives may be determined through measurement (e.g., toxicity testing) or other direct evidence of beneficial use impacts. Alternatively, relevant numerical water quality limits may be selected from the literature and used to interpret the narrative objectives. Water quality limits from the literature include drinking water standards, ambient water quality criteria, cancer risk estimates, health advisories, and other numerical values that represent concentrations of chemicals that would limit specific uses of water. An example of a water quality limit is the taste and odor threshold for ethylbenzene of 29 ug/L, published by USEPA. This water quality limit could be used to interpret compliance with the narrative water quality objective for Tastes and Odors, discussed above.

For each constituent, all applicable numerical objectives along with water quality limits selected to interpret each applicable narrative objective are collected. Then the most limiting (most stringent) of these values is selected. Below this most limiting value, compliance with all applicable water quality objectives is expected to occur and the most sensitive beneficial use should be protected. This most limiting value becomes the beneficial use protective water quality limit for the constituent of interest in the water body. If the concentration of the constituent exceeds the beneficial use protective water quality limit, one or more water quality objectives have been violated and pollution has occurred.

The one exception to this is where the site-specific natural background condition in water is a higher concentration than the beneficial use protective water quality limit. The State and Regional Water Boards authority for protection of water quality from waste discharges is limited to the regulation of "controllable water quality factors"—those actions, conditions, or circumstances resulting from human activities that may influence the quality of waters of the state and that may be reasonably controlled. Where the natural background level is higher than the beneficial use protective water quality limit, the natural background level is considered to be the applicable water quality objective. In such cases, other controllable factors are not allowed to cause any further degradation of water quality.

FIGURE 1. SELECTING BENEFICIAL USE PROTECTIVE WATER QUALITY LIMITS



TYPES OF WATER QUALITY LIMITS

The literature contains many useful water quality limits designed to protect specific beneficial uses of water. Some of these limits directly apply to constituents and parameters in California waters. If properly applied, the remaining limits may be used to interpret narrative water quality objectives. The following is a summary of available types of water quality limits that are presented in this document. The Reference section at the end of this report lists the sources of these limits, including internet addresses where available.

Drinking Water Standards, Maximum Contaminant Levels (MCLs)

MCLs are components of the drinking water standards adopted by the California Department of Health Services (DHS) pursuant to the California Safe Drinking Water Act. California MCLs may be found in Title 22 of the California Code of Regulations (CCR), Division 4, Chapter 15, *Domestic Water Quality and Monitoring*. USEPA also adopts MCLs under the federal Safe Drinking Water Act. DHS drinking water standards are required to be at least as stringent as those adopted by the USEPA. If USEPA adopts a federal MCL that is lower than the corresponding state MCL, the state is required by statute to revise its MCL to at least as low as the federal MCL. Some California MCLs are more stringent than USEPA MCLs.

Primary MCLs are derived from health-based criteria (by USEPA from MCL Goals; by DHS from Public Health Goals or from one-in-a-million [10^{-6}] incremental cancer risk estimates for carcinogens and threshold toxicity levels for non-carcinogens). MCLs also include technologic and economic considerations based on the feasibility of achieving and monitoring for these concentrations in drinking water supply systems and at the tap. It should be noted that the balancing of health effects with technologic and economic considerations in the derivation of MCLs may result in MCLs that are not fully health protective. As such, MCLs may not be appropriate for protection of the quality of raw surface water or groundwater resources, as will be discussed below.

Secondary MCLs are derived from human welfare considerations (e.g., taste, odor, laundry staining) in the same manner as Primary MCLs.

Drinking water MCLs are directly applicable to water supply systems and at the tap and are enforceable by DHS and local health departments. California MCLs, both Primary and Secondary, are directly applicable to groundwater and surface water resources when they are specifically referenced as water quality objectives in the pertinent *Water Quality Control Plan*. In such cases, MCLs become enforceable limits by the State and Regional Water Boards. When fully health protective, MCLs may also be used to interpret narrative water quality objectives prohibiting toxicity to humans in water designated as a source of drinking water (municipal and domestic supply) in the *Water Quality Control Plan*.

Maximum Contaminant Level Goals (MCL Goals or MCLGs)

MCL Goals are promulgated by USEPA as part of the National Primary Drinking Water Regulations. MCL Goals represent the first step in establishing federal Primary MCLs and are required by federal statute to be set at levels that represent no adverse health risks. They are set at "zero" for known and probable human carcinogens, since theoretically a single molecule of such a chemical could present some degree of cancer risk. Threshold levels posing no risk of health effects are used for non-carcinogens and for possible human carcinogens. Because they are purely health-based, non-zero MCL Goals may be useful to interpret narrative water quality objectives which prohibit toxicity to human consumers.

California Public Health Goals (PHGs)

The California Safe Drinking Water Act of 1996 requires the Cal/EPA, Office of Environmental Health Hazard Assessment (OEHHA) to perform risk assessments and to adopt Public Health Goals for contaminants in drinking water based exclusively on public health considerations. PHGs represent levels of contaminants in drinking water that would pose no significant health risk to individuals consuming the water on a daily basis over a lifetime. For carcinogens, PHGs are based on 10^{-6} incremental cancer risk estimates. OEHHA and DHS consider the 10^{-6} risk level to represent a *de minimis* level of cancer risk for involuntary exposure to contaminants in drinking water. For other contaminants, PHGs are based on threshold toxicity limits, with a margin of safety.

PHGs adopted by OEHHA are used by DHS to develop and revise primary drinking water MCLs. Where PHGs are to be based solely on scientific and public health considerations without regard to economic considerations, drinking water MCLs are to consider economic factors and technical feasibility. Each MCL adopted by DHS is to be set at a level that is as close as feasible to the corresponding PHG, placing emphasis on the protection of public health. Because they are purely health-based, PHGs are also appropriate to use in interpreting narrative toxicity objectives with respect to human exposures from constituents in water bodies that have been designated as existing or potential sources of municipal and domestic supply. In addition, where water quality objectives require compliance with drinking water MCLs, the PHGs may provide an indication of whether MCLs are likely to be revised in the future. The State and Regional Water Boards must protect both existing and future water uses.

California State Action Levels

Action levels are published by DHS for chemicals for which there is no drinking water MCL. State Action Levels are based mainly on health effects—an incremental cancer risk estimate of 10^{-6} for carcinogens and a threshold toxicity limit for other constituents. As with MCLs, the ability to quantify the amount of the constituent in a water sample using readily available analytical methods may cause action levels to be set at somewhat higher concentrations than purely health-based values. State Action Levels are advisory to water suppliers. If exceeded, DHS urges the supplier to correct the problem or to find an alternative raw water source. When they are purely health-based, State Action Levels may also be used to interpret narrative water quality objectives that prohibit toxicity to humans that beneficially use the water resource.

Cal/EPA Cancer Potency Factors

OEHHA has lead responsibility within Cal/EPA for the assessment of human health risks associated with exposures to toxic substances in environmental media. OEHHA also performs health risk assessments for California state agencies outside Cal/EPA, such as developing Public Health Goals for use by the Department of Health Services in deriving primary drinking water standards. OEHHA maintains an on-line database of health risk information for chemicals called the Cal/EPA Toxicity Criteria Database. The health based criteria presented in this database have been used as the basis for California state regulatory actions. The majority of these criteria has undergone peer review and in many cases rigorous regulatory review. The database includes cancer potency factors for inhalation and oral exposures to many chemicals. These Cal/EPA cancer potency factors may be used to calculate concentrations in drinking water associated with specific cancer risk levels, using standard exposure assumptions (see *Threshold Risk Characterization*, below.).

Integrated Risk Information System (IRIS)

The USEPA Office of Research and Development, National Center for Environmental Assessment maintains a chemical database called the Integrated Risk Information System. IRIS contains USEPA's most current information on human health effects that may result from exposure to toxic substances found in the environment. Two types of criteria are presented in IRIS. Reference doses (RfDs) are calculated as safe exposure levels for health effects other than cancer. They are presented in units of milligrams of chemical per kilogram body weight per day of exposure (mg/kg-day). RfDs may be converted into concentrations in drinking water (ug/L or ppb) using standard exposure assumptions (see *Threshold Risk Characterization*, below.). IRIS also presents concentrations of chemicals in drinking water that would be associated with specific levels of cancer risk.

Drinking Water Health Advisories and Water Quality Advisories

Health Advisories are published by USEPA for short-term (1-day exposure or less or 10-day exposure or less), long-term (7-year exposure or less), and lifetime human exposures through drinking water. Health advisories for non-carcinogens and for possible human carcinogens are calculated for chemicals where sufficient toxicologic data exist. Incremental cancer risk estimates for known and probable human carcinogens are also presented.

USEPA Water Quality Advisories contain human health related criteria that assume exposure through both drinking water and consumption of contaminated

fish and shellfish harvested from the same water. Some Water Quality Advisories also contain criteria that are intended to be protective of aquatic life.

Suggested No-Adverse-Response Levels (SNARLs)

SNARLs are human health-based criteria that were published by the National Academy of Sciences (NAS) in the nine volumes of *Drinking Water and Health* (1977 to 1989). USEPA health advisories were also formerly published as "SNARLs." SNARLs do not reflect the cancer risk that may be posed by chemical exposure. Incremental cancer risk estimates for carcinogens are also presented in these NAS and USEPA documents. NAS criteria from *Drinking Water and Health* may not contain the most recent toxicologic information. They should only be used to interpret narrative water quality objectives where more recent health-based criteria are absent.

Proposition 65 Safe Harbor Levels

Safe harbor levels are established pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) for known human carcinogens and reproductive toxins. Proposition 65, an initiative statute, made it illegal to expose persons to significant amounts of these chemicals without prior notification or to discharge significant amounts of these chemicals to sources of drinking water. These "significant amounts" are adopted by the Office of Environmental Health Hazard Assessment in regulations contained in Title 22 of the California Code of Regulation, Division 2, Chapter 3. The intent of Proposition 65 was not to establish levels in water that are considered to be "safe."

For carcinogens, No Significant Risk Levels (NSRLs) are set at concentrations associated with a one-in-100,000 (10^{-5}) incremental risk of cancer. These are the only California health-based limits derived from risk levels greater than 10^{-6}. As such, they are not as protective of human health as many other published criteria (see *Which Cancer Risk Level?*, below). For reproductive toxicants, Maximum Allowable Dose Levels (MADLs) are set at $^{1}/_{1000}$ of the no-observable-effect level (NOEL).

Proposition 65 levels are doses, expressed in units of micrograms per day of exposure (ug/d). Dose levels may be converted into concentrations in water by assuming 2 liters per day water consumption and 100 percent exposure to the chemical through drinking water, under regulations contained in Title 22 of CCR, Sections 12721 and 12821.

California Toxics Rule (CTR) and National Toxics Rule (NTR) Criteria

The federal Clean Water Act requires all states to have enforceable numerical water quality criteria applicable to priority toxic pollutants in surface waters. California lacked many of these standards, in part due to the State Water Board's rescission of the *Inland Surface Waters Plan* and *Enclosed Bays and Estuaries Plan*, resulting from a legal challenge. In May 2000, USEPA promulgated water quality criteria for priority toxic pollutants for California's inland surface waters and enclosed bays and estuaries in federal regulations called the "California Toxics Rule." Included are criteria to protect both human health and aquatic life, similar to those published in the *National Ambient Water Quality Criteria*, discussed below.

The human health criteria are derived for drinking water sources (those designated in *Basin Plans* as municipal and domestic supply or MUN) considering exposure from consumption of both water and fish that had lived in the water. For waters that are not drinking water sources (non-MUN waters), human health criteria consider contaminated fish consumption only. Freshwater and saltwater aquatic life criteria are included for multiple averaging periods to protect against both acute and chronic toxicity.

The California Toxics Rule reiterated several criteria that USEPA had promulgated in December 1992 for California waters and those of other states in the National Toxics Rule (NTR).

The CTR criteria, along with the beneficial use designations in the *Basin Plans*, are directly applicable water quality standards for these toxic pollutants in these waters under Section 304(c) of the federal Clean Water Act. Implementation provisions for these standards may be found in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SWRCB Resolution No. 2000-015), adopted by the State Water Board in March 2000. The policy includes time schedules for compliance, provisions for mixing zones, analytical methods and reporting levels.

California Ocean Plan Objectives

One of the statewide *Water Quality Control Plans* adopted by the State Water Resources Control Board, the *Water Quality Control Plan for Ocean Waters of California* (the *Ocean Plan*) includes numerical water quality objectives to protect both human health and marine aquatic life from potentially harmful constituents and parameters in marine waters of California. When combined with beneficial use designations, these objectives become directly applicable water quality standards pursuant to Section 304(c) of the federal Clean Water Act. Objectives to protect human health assume exposure through ingestion of fish that lived in water containing the constituent of concern. Marine aquatic life objectives are included for multiple averaging periods to protect against acute and chronic toxic effects.

National Ambient Water Quality Criteria

These criteria, also called the National Recommended Water Quality Criteria, are developed by USEPA under Section 304(a) of the federal Clean Water Act to provide guidance to the states in developing water quality standards under Section 304(c) of the Act and to interpret narrative toxicity standards (water quality objectives in California). These criteria are designed to protect human health and welfare and aquatic life from pollutants in freshwater and marine surface waters.

As with CTR and NTR criteria, discussed above, the human health protective criteria assume two different exposure scenarios. For waters that are sources of drinking water, exposure is assumed both from drinking the water and consuming aquatic organisms (fish and shellfish) that live in the water. For waters that are not sources of drinking water, exposure is assumed to be from the consumption of aquatic organisms only. Aquatic organisms are known to bioaccumulate certain toxic pollutants in their tissues, thereby magnifying human exposures. Because these human health based criteria assume exposure through fish and shellfish consumption, they should not be used to interpret water quality objectives for groundwater where human exposure would only occur from municipal and domestic supply uses. The criteria also include threshold health protective criteria for non-carcinogens. Incremental cancer risk estimates for carcinogens are presented at a variety of risk levels. Organoleptic (taste- and odor-based) levels are also provided for some chemicals to protect human welfare. Some organoleptic criteria are based on adverse taste or odor of chemicals in water, while others are based on the tainting of the flesh of fish and shellfish from chemicals in ambient water.

As with CTR and NTR criteria, National Ambient Water Quality Criteria also include criteria that are intended to protect freshwater and saltwater aquatic life. Normally, two types of limits are presented for each. Criteria Maximum Concentrations (CMCs) protect aquatic organisms from short-term or acute exposures (expressed as 1-hour average or instantaneous maximum concentrations) to pollutants. Criteria Continuous Concentrations (CCCs) are intended to protect aquatic organisms from long-term or chronic exposures (expressed as 4-day or 24-hour average concentrations). To be able to derive recommended criteria, the USEPA method requires toxicity data for species representing a minimum of eight families of organisms, including both vertebrate and invertebrate species. Important aquatic plant species are also considered. Fundamental to the method is protection of all species, even at sensitive life stages, for which there are reliable measurements in the data set. Criteria derived by this method are also intended to protect species for which those in the data set serve as surrogates. Toxicity information, in the form of lowest observed effect levels, is often presented in the USEPA criteria documents where there is insufficient toxicologic information with which to develop recommended criteria.

The National Ambient Water Quality Criteria are found in a number of USEPA documents:

- *Quality Criteria for Water, 1986*, with updates in 1986 and 1987, also known as the “Gold Book”;
- *Ambient Water Quality Criteria* volumes on specific pollutants or classes of pollutants (various dates beginning in 1980);
- *Quality Criteria for Water* (1976), also known as the “Red Book”;
- *Water Quality Criteria, 1972*, also known as the “Blue Book.”

In December 1992, USEPA promulgated the *National Toxics Rule*, which updated many of these criteria and made them directly applicable standards for surface waters in many states, including some

California waters. These regulations, found in 40 CFR Section 131.36, specify that "[t]he human health criteria shall be applied at the State-adopted 10^{-6} risk level" for California. To ascertain compliance with the aquatic life protective criteria for metallic constituents, water quality samples were to be analyzed for "total recoverable" concentrations. In May 1995, USEPA amended these regulations to convert most of these aquatic life criteria to dissolved concentrations.

In April 1999 and November 2002, USEPA published tables of *National Recommended Water Quality Criteria*, which summarize criteria from the sources discussed above and more recent updates. Due to their age and changes in methods used to derive the criteria, Blue Book criteria no longer appear in these summary tables. USEPA may no longer support their use.

Agricultural Water Quality Limits

Water Quality for Agriculture, published by the Food and Agriculture Organization of the United Nations in 1985, contains limits protective of various agricultural uses of water, including irrigation of various types of crops and stock watering. Above these limits, specific agricultural uses of water may be adversely affected. These limits may be used to translate narrative water quality objectives that prohibit chemical constituents in concentrations that would impair agricultural uses of water.

Taste and Odor Thresholds

Consumers of water do not want to drink water that tastes or smells bad. Therefore, water that contains substances in concentrations that cause adverse tastes or odors may be considered to be impaired with respect to beneficial uses associated with drinking water use (municipal or domestic supply). Adverse tastes and odors may also be associated with nuisance conditions. Taste and odor thresholds are used to translate narrative water quality objectives that prohibit adverse tastes and odors in waters of the State and prohibit nuisance conditions. Taste and odor thresholds form the basis for many secondary drinking water Maximum Contaminant Levels (MCLs) and are also published by the U.S. Environmental Protection Agency in the National Ambient Water Quality Criteria and Drinking Water Contaminant Fact Sheets. An extensive collection of odor thresholds was published by J.E. Amoore and E. Hautala in the Journal of Applied Toxicology (1983).

Other Numerical Limits

Other sources of numerical water quality limits include:

- *Hazard Assessments* and *Water Quality Criteria*, published by the California Department of Fish and Game, which contain criteria that are protective of aquatic life from exposure to several pesticides. CDFG uses the same methods employed by USEPA to derive the National Ambient Water Quality Criteria for freshwater and saltwater aquatic life protection, discussed above. CDFG may modify the data requirements of the USEPA methods, depending on data availability.
- *Water Quality Criteria, Second Edition*, written by McKee and Wolf and published by the State Water Resources Control Board in 1963 and 1978, which contains criteria for human health and welfare, aquatic life, agricultural use, industrial use, and various other beneficial uses of water. This document is available from the National Technical Information Service (NTIS; 1-800-553-6847) as Publication No. PB 82188244.

The numerical water quality limits discussed above are summarized in the tables and graphs that make up the remainder of this report.

RISK CHARACTERIZATION METHODS FOR DRINKING WATER

The methods by which the USEPA and other agencies derive lifetime health advisories and concentration-based cancer risk estimates for constituents in drinking water may be used to calculate water quality limits from other published toxicologic criteria. These methods are based on the following toxicologic principles.

Threshold Toxins vs. Non-Threshold Toxins

Relationships between exposure to toxic chemicals and resulting health effects may be roughly divided into two categories, threshold and non-threshold. It is important to recognize that it is not the chemical itself, but the dose (the concentration of the chemical multiplied by the duration of exposure), that is responsible for the toxic effect. Below a particular threshold dose, many chemicals cause no toxic effects. These chemi-

cals are called threshold toxins. Cyanide, mercury, and the pesticide malathion fall into this category. Some threshold chemicals, like Vitamin A, are beneficial to human health at low doses, but toxic at high doses.

On the other hand, some chemicals have no toxicity threshold; they may pose some degree of health risk at any concentration. Most carcinogens are thought to fall into this non-threshold category. Essentially, exposure to one molecule is considered to have the potential to cause some finite risk of getting cancer. Health risks for non-threshold toxins are characterized by probabilities. The higher the dose, the higher the probability of experiencing the toxic effect. For example, according to OEHHA, 0.15 microgram of benzene per liter of drinking water is associated with the probability of causing one additional cancer case in a million persons who are exposed through in-home use of this water over their lifetimes. The value of 0.15 ug/L is the estimated drinking water concentration associated with a 1-in-a-million (10^{-6}) incremental cancer risk, also known as the 10^{-6} cancer risk estimate for benzene. Because cancer risk is a probabilistic event, the level of cancer risk is directly proportional to the dose, or the concentration in water if all other factors are held constant. Therefore, the 10^{-5} cancer risk level (1 extra case of cancer in 100,000 exposed persons) for benzene would be 1.5 ug/L.

USEPA has assigned chemicals into five categories, by considering the weight of cancer risk evidence that exists in the toxicologic record:

Class A chemicals are known human carcinogens (there is sufficient evidence relating human exposure to cancer);

Class B chemicals are probable human carcinogens (limited human evidence, but sufficient animal evidence);

Class C chemicals are possible human carcinogens (no human evidence and limited animal evidence);

Class D chemicals have insufficient cancer risk data to assign them to another category; and

Class E chemicals have sufficient evidence to indicate that they are not carcinogens.

Because toxicologic experiments can not be carried out on humans, very few chemicals fall into Class A. Epidemiologic evidence from industrial and accidental human exposures are used to place chemicals in this category. Arsenic, benzene, vinyl chloride and radioactive substances are examples of Class A carcinogens. Unlike experimental animal studies, there is no need to extrapolate the evidence linking chemical exposure and cancer risk to humans. So the highest degree of association between chemical exposure and human cancer risk exists for chemicals in this class.

USEPA publishes cancer risk estimates for Class A, Class B, and sometimes for Class C chemicals. They publish threshold health advisories for lifetime exposure for Class C, Class D and Class E chemicals.

Because of the different ways in which chemicals are believed to cause adverse health impacts, the characterization of health risks for non-threshold toxins is different from that for threshold toxins.

Non-Threshold Risk Characterization

For non-threshold chemicals, including most carcinogens, the *risk* of a toxic effect is considered to be proportional to the amount or *dose* of the chemical to which a population is exposed. For each carcinogen, risk and dose are related by a cancer potency or slope factor (often abbreviated q_1*) which is equal to the risk of getting cancer per unit dose of the chemical. The potency factor is expressed in units of inverse milligrams of chemical per kilogram body weight per day of exposure $(mg/kg/day)^{-1}$. The cancer risk level, dose, and cancer potency factor are related by equation [1] in Figure 2. Potency factors for carcinogens are calculated by extrapolation from dose-response relationships often developed in laboratory animal exposure studies. For a few chemicals, they are based on human epidemiologic data. Potency factors may be found in the Cal/EPA Toxicity Criteria Database maintained by OEHHA, the USEPA Integrated Risk Information System (IRIS) database, USEPA health advisory documents, and the Drinking Water and Health publications of the National Academy of Sciences (NAS).

If one assumes a drinking water consumption rate of 2 liters per day and an average human body weight of 70 kg, dose and concentration in drinking water may be related by equation [2]. These are standard assumptions used by federal and state drinking water regulatory and advisory programs and by OEHHA in regulations that implement Proposition 65. By combining equations [1] and [2] and rearranging, we obtain equation [3]. This equation allows calculation of a concentration in drinking water associated with a given cancer risk level, if the potency factor is known.

For example, the Cal/EPA cancer potency factor for the pesticide 1,2-dibromo-3-chloropropane or DBCP is 7 $(mg/kg/day)^{-1}$. Using equation [3], the concentration in drinking water associated with a 1-in-a-million (10^{-6}) lifetime cancer risk level may be calculated as 0.000005 mg/l or 0.005 ug/L. This 10^{-6} cancer risk estimate along with other similarly calculated cancer risk estimates for other chemicals may be found in the tables of this report.

FIGURE 2. CALCULATION OF HEALTH BASED LIMITS

[1] $\text{Risk Level} = \text{Dose} \times \text{Potency Factor}$

[2] $\text{Dose (mg/kg/day)} = \text{Concentration (mg/l)} \times 2 \text{ liters/day} \div 70 \text{ kg}$

[3] $$\text{Concentration (mg/l)} = \frac{\text{Risk Level} \times 70 \text{ kg}}{\text{Potency Factor} \times 2 \text{ liters/day}}$$

[4] $$\text{RfD} = \frac{\text{NOAEL}}{\text{Uncertainty Factor}}$$

[5] $$\text{DWEL} = \frac{\text{RfD} \times 70 \text{ kg}}{2 \text{ liters/day}}$$

[6] $$\text{Lifetime Health Advisory (mg/l)} = \frac{\text{DWEL} \times 20\% \text{ RSC}}{\text{Additional Uncertainty Factor}}$$

Volatile chemicals in water may cause exposures other than through direct water ingestion. Use of water in the home can volatilize these chemicals into indoor air which people breathe. Bathing with contaminated water may cause chemical exposure through skin absorption. In recent years, OEHHA has accounted for these added exposures to volatile carcinogens in drinking water in the derivation of Public Health Goals. Assuming greater exposure means that a lower concentration in water is associated with the same level of cancer risk. For example, if exposure to the solvent trichloroethylene (TCE) is assumed only to occur through ingestion of contaminated water, the concentration associated with the 1-in-a-million lifetime cancer risk is 2.3 ug/L, according to OEHHA. If vapor inhalation and dermal exposure are also assumed to occur, the 1-in-a-million risk level drops to 0.8 ug/L. For this reason, Public Health Goals are often lower than cancer risk levels from other sources.

Which Cancer Risk Level?

There is often confusion about which cancer risk level to use in selecting human health-based water quality limits. The one-in-a-million (10^{-6}) incremental cancer risk level has historically formed the basis of human health protective numerical water quality limits in California. It is generally recognized by California and federal agencies as the *de minimis* or negligible level of risk associated with involuntary exposure to toxic chemicals in environmental media.

The 10^{-6} risk level has long formed the basis of water-related health-protective regulatory decision-making in California. The following are some of the more significant instances:

- DHS *Statement of Reasons* documents that justify Primary MCL regulations for carcinogenic substances use the 10^{-6} risk level for lifetime exposure as the basis from which the MCLs were derived. In these documents DHS describes the 10^{-6} risk level as "the *de minimis* excess cancer risk value" which is "typically assumed by federal and state regulatory agencies for involuntary exposures to environmental pollutants." MCLs for carcinogens deviate from the 10^{-6} risk level only where technologic or economic factors prevent the use of this level.
- DHS State Action Levels for drinking water are also set at the 10^{-6} risk level unless technologic or economic factors prevent using that level, as with the Primary MCLs.
- The *Preliminary Endangerment Assessment Guidance Manual* published by the Department of Toxic Substances Control (DTSC) [page 2-26] states that "[i]n general, a risk estimation greater that [sic] 10^{-6} or a hazard index greater than 1 indicate the presence of contamination which may

pose a significant threat to human health."

- Clean Water Act water quality criteria promulgated for California waters by USEPA in the National Toxics Rule and the California Toxics Rule state that "[t]he human health criteria shall be applied at the State-adopted 10^{-6} risk level." These criteria, when combined with beneficial use designations in state *Water Quality Control Plans* are water quality standards for California's inland and estuarine surface waters.
- *Functional Equivalent Documents* adopted by the State Water Board that provide background and justification for the *California Ocean Plan* and the former *California Inland Surface Waters* and *Enclosed Bays and Estuaries Plans* cite the 10^{-6} risk level as the basis of human health protective water quality objectives for carcinogens.
- Public Health Goals for drinking water, adopted by OEHHA, are based on the 10^{-6} risk level for carcinogens, "a level that has been considered negligible or *de minimis*," and a 70-year exposure period.
- In enforcement decisions regarding an off-site chlorinated solvent plume from Mather Air Force Base, the Central Valley Regional Water Quality Control Board required that replacement water supply be provided when the level of carcinogenic chemicals is detected and confirmed at or above concentrations that represent 10^{-6} lifetime cancer risk levels in individual wells. This decision implements the narrative toxicity objective for groundwater from the *Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins*.
- Cleanup and Abatement Order No. 92-707 adopted by the Central Valley Regional Water Quality Control Board established cleanup levels for groundwater at the Southern Pacific Transportation Company, Tracy Yard, San Joaquin County at the 10^{-6} lifetime cancer risk levels for carcinogens, based on the narrative toxicity objective for groundwater from the *Basin Plan for the Sacramento River and San Joaquin River Basins*.

For consistency, the 10^{-6} risk level should govern the selection of human health-based limits to interpret narrative toxicity objectives.

Regulations implementing Proposition 65 cite the one-in-a-hundred-thousand (10^{-5}) risk level for carcinogens. However, the intent of this initiative statute is public notice prior to exposure to certain chemicals and the prohibition of specific discharges of these chemicals. It is not the intent of Proposition 65 to establish levels of involuntary environmental exposure that are considered "safe." Therefore, Proposition 65 does not provide a relevant precedent for determining the level of cancer risk for compliance with the narrative toxicity objectives.

Threshold Risk Characterization

To determine the concentration of a threshold toxin that is safe for humans to consume in drinking water, toxic and safe dose information is first derived from animal studies or, if available, epidemiologic studies. In the laboratory studies, animals are exposed to a chemical at specific dose levels. For epidemiologic studies, measured or estimated human exposures are divided into various dose levels. USEPA and other agencies choose one of two dose level results from these studies from which to calculate safe levels for humans in drinking water. The no observed adverse effect level (NOAEL) is the highest dose that caused no toxic effect in the study. The lowest observed adverse effect level (LOAEL) is the lowest dose that did cause a measurable toxic effect. The LOAEL is a higher dose than the NOAEL. Because the toxic dose of a chemical is usually related to the body weight of the animal or human studied, doses are often reported in units of milligrams of chemical per kilogram of body weight per day of exposure (mg/kg/day or mg/kg-day). Both NOAELs and LOAELs are expressed in these units.

USEPA and other agencies use the NOAEL or LOAEL to calculate a reference dose or RfD for a toxic chemical, using equation [4] in Figure 2. The uncertainty factor in the equation accounts for unknowns in the extrapolation of study data into "safe" levels for human exposure. The minimum uncertainty factor is 10, which accounts for the fact that some people (e.g., children, the elderly, those with compromised immune systems) are more sensitive to toxic chemicals than the average person. The minimum uncertainty factor is normally multiplied by additional factors of 3 to 10 for each of the following conditions, if they apply:

- Extrapolation from animal toxicity studies to human toxicity (not used with human exposure data);

- Using a LOAEL in place of a NOAEL in equation [4], above;
- Using a dose (NOAEL or LOAEL) from a study which examined a less appropriate route of exposure to the chemical (the route of exposure most relevant to drinking water is ingestion);
- Using a dose from a study which exposed test animals for a period of time that is not a significant fraction of the animals' lifetime (subchronic exposure);
- Potential synergism among chemicals (the toxicity of two or more chemicals is greater than additive —the sum of their individual toxicities); and
- Any other toxicologic data gaps.

RfDs have the same units as the NOAELs and LOAELs from which they are derived, mg/kg/day. The USEPA IRIS database contains reference doses for many threshold toxins.

The next step, equation [5], is the calculation of a drinking water equivalent level (DWEL) from the reference dose. This step is derived from equation [2] by assuming an average human body weight of 70 kilograms and an average drinking water consumption rate of two liters per day. As with the calculation of cancer risk criteria in water, these are standard assumptions used by federal and state drinking water regulatory and advisory programs.

One last step, equation [6] in Figure 2, is required to turn the DWEL into the equivalent of a lifetime health advisory concentration. Two additional factors are used. The first is the relative source contribution or RSC. It accounts for the fact that people are usually exposed to chemicals from sources other than drinking water (e.g., in foods and in the air we breathe). The combined exposure from all sources forms the overall dose that may cause toxicity. The default relative source contribution normally used by USEPA in deriving lifetime health advisories for threshold constituents is 20%. This means that 20% of the exposure is assumed to come from drinking water and 80% from all other sources combined. Information on chemical exposure to specific chemicals through other media may cause a RSC to be used that is different than the default value. State Action Levels from DHS may differ from health based limits published by USEPA, due to differing assumptions about relative source contribution.

The second factor in equation [6] is an additional uncertainty factor, used to provide an extra margin of safety for those chemicals for which limited evidence of cancer risk exists (Class C carcinogens). This uncertainty factor is equal to 10 for Class C carcinogens, and 1 for chemicals in Classes D and E. Lifetime health advisories are usually not calculated for chemicals in cancer Classes A and B. Cancer risk estimates are calculated instead.

With equations [5] and [6], one can calculate health protective water quality limits for threshold toxins from RfD values published in the IRIS database and elsewhere in the literature. For example, acetone is a Class D chemical (no evidence of cancer risk) with an RfD of 0.10 mg/kg/day in IRIS. From equation [5], a DWEL of 3.5 mg/l may be calculated. By equation [6], this DWEL may be converted into an expected lifetime-exposure safe limit in drinking water of 0.7 mg/l or 700 ug/L. This and other similarly calculated limits are presented in the tables of this report.

Selecting From Among Available Numerical Limits

To protect all designated beneficial uses of water, the most protective (lowest), appropriate (to implement the water quality objectives in the *Water Quality Control Plans*) limit should be selected as the beneficial use protective water quality limit for a particular water body and constituent. Due to the rapid evolution of data on the health and environmental effects of chemicals, caution should be observed in selecting from among the various water quality limits to be sure that the most current limits are used. The original literature should be consulted whenever possible to determine the appropriateness and limitations of the water quality limits being considered. Other government agencies, such as the California Department of Health Services, the California Department of Fish and Game, the Office of Environmental Health Hazard Assessment, and the U.S. Environmental Protection Agency may be consulted for up-to-date information.

In some cases, multiple human health-based limits are available for a particular chemical. A decision must be made as to which of these limits is the most appropriate to implement narrative toxicity objectives to protect human health. In May of 1994, representatives of the State Water Board and the Central Valley Regional Water Board met with toxicologists and

other representatives of DTSC and OEHHA to discuss the use of toxicologic criteria in contaminated site assessment and cleanup. The group agreed to use guidance parallel to that given on page 2-20 of DTSC's *Preliminary Endangerment Assessment Guidance Manual* (January 1994). When selecting numerical limits from the literature to interpret health-based narrative water quality objectives or when selecting criteria for use in health risk assessments, limits should be used in the following hierarchy:

(1) Cancer potency slope factors and reference doses promulgated into California regulations.
(2) Cancer potency slope factors and reference doses used to develop environmental criteria promulgated into California regulations. The entirely health-based dose criteria should be used, and not necessarily the resulting risk management environmental concentration criteria (e.g., the RfD rather than the MCL).
(3) Cancer potency slope factors and reference doses from USEPA's Integrated Risk Information System (IRIS).
(4) Cancer potency slope factors or reference doses from USEPA's Health Effects Assessment Summary Tables (Health Advisories), the most current edition.

Limits in the first two categories may be found in the Cal/EPA Toxicity Criteria Database maintained by OEHHA.

MCLs May Not Protect Water Resources

It has been common practice to rely on Primary MCLs as "enforceable standards" for human health protection from chemicals in water. However, MCLs are designed to apply to water within a drinking water distribution system and at the tap. Care should be taken when relying on Primary MCLs to implement water quality objectives that protect sources of drinking water (groundwater or surface water resources).

A common example of incorrect MCL application is the use of the total trihalomethane (THM) MCL to protect groundwater quality from chloroform, bromoform, bromodichloromethane and dibromochloromethane, the four chemicals covered by the term "trihalomethanes." These probable and possible human carcinogens are formed in drinking water by the action of chlorine, used for disinfection, on organic matter present in the raw source water. The total THM federal Primary MCL of 80 ug/L is 19 to 296 times higher than one-in-a-million incremental cancer risk estimates for the individual chemicals published by OEHHA and USEPA. USEPA has stated that the MCL for total THMs was based mainly on technologic and economic considerations. Therefore, this drinking water standard is not fully health protective. It does not clearly implement the language of the narrative water quality objective for toxicity that prohibits toxic substances in toxic amounts.

Most municipal drinking water systems chlorinate their water to remove pathogens, such as bacteria and viruses. The MCL for total THMs was derived by balancing the benefit provided by the chlorination process—elimination of pathogens in drinking water—with the health threat posed by the trihalomethane byproducts of this process. The cost associated with converting to non-chlorine disinfection methods was also considered. In the case of groundwater protection, this type of cost/benefit balancing—accepting some cancer risk from chloroform and other THMs in order to eliminate the health risk from pathogens and avoid disinfection process conversion costs—is not germane. The water has not been and may not need to be chlorinated to allow domestic consumption. Therefore, the total THM MCL is not sufficiently protective of the ambient quality of domestic water supply sources.

To ensure that drinking water system compliance can be ascertained, MCLs are required to be set at or above commonly achievable analytical quantitation limits. In several cases, DHS and USEPA have established MCLs at concentrations higher than health protective levels, where the health-based levels are below readily available analytical quantitation limits. It is clear from the *Statement of Reasons* documents for California drinking water regulations that the intent of DHS was to adopt one-in-a-million cancer risk values as MCLs for several chlorinated solvents (e.g., TCE, carbon tetrachloride) if analytical quantitation limits had been lower. Since the adoption of these MCLs, analytical quantitation limits have improved. The health-based levels for these chemicals can be reliably measured at reasonable cost. The technologic constraint posed by the older analytical quantitation limits is no longer germane. Therefore, it is no longer reasonable to rely on outdated analytical quantitation limits as substitutes for truly health-based criteria when

interpreting the narrative water quality objective for toxicity.

In several cases, Public Health Goals adopted by OEHHA are more stringent than existing Primary MCLs. The intent of the legislation that mandated adoption of PHGs is to inform DHS when California MCLs are less than fully health-protective. The legislation requires DHS to periodically review the MCLs and revise them to be as close to PHG values as is technologically and economically achievable. So, compliance with health-based PHGs in ambient sources of drinking water not only prevents toxic amounts of chemicals, but also addresses compliance with probable future MCLs. This may be appropriate for protection of water resources for existing and future municipal and domestic supply uses.

MCLs are only a subset of the water quality objectives applicable to sources of municipal and domestic supply under most *Basin Plans*. Narrative objectives related to toxicity and general beneficial use protection from chemical constituents are also applicable to these waters under most *Basin Plans*. Due to the constraints discussed above, MCLs that are not fully health protective are not appropriate water quality limits to interpret these objectives. Purely health-based limits, such as one-in-a-million incremental cancer risk estimates and Public Health Goals, are appropriate to interpret these narrative objectives. They are more accurate measures of potential impairment by toxic chemicals of the beneficial use of groundwater and surface water for municipal and domestic supply.

Virtually all Primary MCLs are derived by balancing health effects information with the technologic and economic considerations involved in providing that water to customers through conventional drinking water supply systems. Thus, Primary MCLs are not always reliable indicators of the protection of beneficial uses of ambient groundwaters or surface waters. They may not be appropriate water quality limits to interpret narrative water quality objectives designed to prevent human toxicity or generally protect beneficial uses from chemical constituents.

There are additional instances where water quality limits more stringent than MCLs are applied to protect all of the beneficial uses of a water resource. For example, the Regional Water Boards require surface waters to comply with aquatic life protective criteria for metals where these criteria are more stringent than MCLs. Agricultural use protective limits for several constituents and parameters, including chloride and total dissolved solids, are more stringent than MCLs, indicating that sensitive agricultural use may be impaired at concentrations lower than MCLs. Several chemicals cause water to taste or smell bad at concentrations far lower than MCLs. The following are taste and odor thresholds and primary MCLs (in ug/L) for three common gasoline constituents:

	Taste & Odor Threshold	***Primary MCL***
Ethylbenzene	29	300
Toluene	42	150
Xylene(s)	17	1750

It is clear that water will be rendered unpalatable and beneficial uses will be impaired at concentrations of these chemicals that are significantly below MCLs. The taste and odor thresholds, used to implement narrative water quality objectives for taste and odor, would prevent such impairment.

Again, even though the MCL may be an applicable water quality objective for these waters, it may not be the most stringent water quality objective. Compliance with the MCL will not ensure compliance with all applicable water quality objectives. As such, MCLs may not be sufficiently protective of the most sensitive beneficial use.

As discussed above, the state's *Antidegradation Policy* requires water quality limits to be set below beneficial use protective concentrations, toward or equal to background levels, where feasible.

WATER QUALITY LIMIT SELECTION ALGORITHMS

The above discussion shows how numerical limits may be used to translate narrative water quality objectives into beneficial use protective water quality limits for surface water and groundwater. *[This report does not provide guidance on effluent limits, which are derived from water quality-based and technology-based considerations using discharge-specific factors and according to applicable regulations and policies.]* It is important that the selected limits fully implement all applicable water quality objectives and are defensible.

To increase consistency in the selection of water quality limits, this report recommends the use of default rules or algorithms for selecting numerical limits to comply with water quality objectives and promul-

gated water quality criteria. These algorithms are based on a few guiding principles designed to support the selection of appropriate water quality-based limits. Other policies and regulations, such as the *Antidegradation Policy*, the Site Assessment and Cleanup Policy, and NPDES regulations require that technology-based limits and background levels also be considered in determining the final water quality limits appropriate for a particular situation.

Guiding Principles

The following principles and steps guide the derivation of the recommended algorithms that follow. ***To be defensible, water quality limits should be chosen so as to implement all applicable water quality objectives and promulgated water quality criteria.*** For each constituent of concern, the process involves three steps:

(1) Select a single numerical limit to satisfy each water quality objective or relevant portion thereof.
(2) To satisfy all applicable objectives, select the lowest of the numerical limits from step (1).
(3) To account for the *Controllable Factors Policy*, discussed below, select the larger of
    (a) the numerical limit chosen in step (2) or
    (b) the natural background level of the constituent.

As an example of "portions" of an objective in step (1), compliance with the narrative toxicity objective for surface water normally involves selection of one limit to protect aquatic life and another limit to protect human health. *[Note: For the National Pollutant Discharge Elimination System (NPDES) program and for other situations where it is not clear that background conditions represent true "natural background," (i.e., not influenced by controllable water quality factors), the limit chosen in step (2) should be imposed even where background levels are less stringent. According to the SWRCB "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," the CTR or NTR criterion becomes the effluent limit in such cases.]*

The above steps should provide a numerical limit which, if equaled or exceeded in ambient water, indicates that pollution has occurred. This is the least stringent limit below which ambient water would be in compliance with applicable water quality standards, beneficial use designations plus water quality objectives or promulgated criteria to protect such uses. Antidegradation principles may require that more stringent limits be applied to ambient water quality, where the natural background level was not selected in step (3) above.

In step (1), especially with respect to toxicity information, ***there should normally be a preference for:***

- ***Purely risk-based limits*** over risk-management based limits, unless the water quality objective mandates the use of a risk-management based limit (e.g., the Chemical Constituent objectives mandates compliance, at a minimum, with California Primary and Secondary drinking water MCLs). Purely risk based limits are based only on the health risk or other risk to beneficial uses. Risk-management based limits include economic and/or technologic factors that may not be relevant to protecting beneficial uses of ambient water resources and may not comply with the language of narrative water quality objectives, as discussed above with respect to MCLs.
- ***Limits developed and/or published by California agencies***, over those developed by federal agencies or other organizations, to provide consistency within state government.
- ***Limits that reflect peer reviewed science***. Avoid using draft or provisional limits, unless nothing else is available.
- ***Limits that reflect current science*** (e.g., Public Health Goals are normally more recent than IRIS criteria, which are normally more recent than USEPA health advisories).

These principles are consistent with the manner in which DTSC and OEHHA select toxicity-based criteria for health risk evaluations.

Avoid using Proposition 65 limits to interpret narrative toxicity objectives. As discussed above, the intent of Proposition 65 is not to designate "safe" levels of chemicals in drinking water. Proposition 65 limits are in conflict with other health-based limits for drinking water in California (i.e., PHGs, other health-based criteria from which MCLs are derived, and CTR and NTR criteria to protect human health).

The above principles may be used to generate algorithms to help select the most applicable or relevant and appropriate water quality numerical limits. Because water quality standards for groundwater and

surface water differ significantly, separate algorithms are presented below.

An Algorithm for Groundwater

For chemicals in groundwater, the following water quality objectives and numerical limits normally apply to the receiving water:

- Chemical Constituents Objective —
  each of the following three items apply separately
  - Drinking Water MCLs —
    select the lowest of the following
    - California Primary MCL
    - California Secondary MCL
  - Numerical water quality objective from the *Water Quality Control Plan*
  - Concentrations that indicate impairment of any designated beneficial use —
    select the lowest of the following
    - Agricultural use protective limit
    - Federal Primary MCL, if lower than California Primary MCL
      [Note: Statute requires that the California MCL will be lowered to at least as low as the Federal MCL. Compliance with the lower Federal MCL is needed to protect the MUN beneficial use in the long term.]
- Toxicity Objective
  - Human health-risk based limits for drinking water use —
    normally in the following hierarchy
    - OEHHA Public Health Goal
    - Cal/EPA cancer potency factor at the one-in-a-million risk level
      [Note: For volatile carcinogens, this limit is likely to be less stringent and less relevant to translating the toxicity objective than the Public Health Goal because it considers only ingestion exposure. PHGs consider ingestion, vapor inhalation and skin adsorption exposures that are likely to occur from the use of drinking water in the household.]
    - California Drinking Water Action Level based on toxicity
    - USEPA IRIS criteria —
      select the lowest of the following
      - one-in-a-million cancer risk estimate
      - reference dose for non-cancer toxicity
    - USEPA Health Advisory —
      select the lowest of the following
      - one-in-a-million cancer risk estimate
      - lifetime non-cancer limit
    - USEPA MCL Goals —
      non-zero values only
      [MCL Goals for carcinogens are set at "zero" to represent no health risk. No significant risk is used for PHGs.]
    - Other health-risk based limits —
      check dates and basis before using these
      - National Academy of Sciences criteria
        select the lowest of
        - one-in-a-million incremental cancer risk estimate
        - drinking water health advisory
      - Proposition 65 levels —
        use only if no other health risk-based limits are available
- Tastes and Odors Objective
  - Taste- and odor-based limits —
    normally in the following hierarchy
    - California Secondary MCL
    - Federal Secondary MCL
    - USEPA National Ambient Water Quality Criterion based on taste & odor —
      Do not use if limit is based on tainting of fish flesh.
    - Taste and odor thresholds published by other agencies or from the peer reviewed literature

First, select one limit for each of the items above that begins with an arrow (➢). Record your selections in a table, such as the one shown in Figure 3.

Second, select the limit with the lowest concentration. The result should be a limit that satisfies all applicable water quality objectives. *Consideration of natural background levels and antidegradation may require further modifications to this selection, as discussed below.*

An Algorithm for Inland and Estuarine Surface Waters

Different numerical limits apply to surface waters. Additional beneficial uses—for example, those that protect aquatic life—normally apply. There are additional standards that apply to surface waters. The California Toxics Rule and the National Toxics Rule

contain promulgated numerical criteria for pollutants in California inland and estuarine surface waters. CTR and NTR criteria to protect human health or aquatic life normally have stronger legal standing than the use of an advisory limit to interpret the narrative Toxicity objective, also to protect human health or aquatic life. For example, if the CTR contains a human health protective criterion for the chemical of concern, it would have precedence over the use of the Public Health Goal to interpret the narrative Toxicity objective to protect human health. Similarly, if the CTR includes an aquatic life protective criterion, it would normally supersede use of a USEPA recommended aquatic life criterion for the same chemical, even if the latter is newer or more stringent. This CTR/NTR constraint does not apply to groundwater. In addition, the CTR, NTR and USEPA Recommended Ambient Water Quality Criteria for human health protection apply only to surface water, because they are derived assuming exposure through consumption of fish and shellfish from the water.

- California Toxics Rule and National Toxics Rule
  [Note: NTR criteria are listed in Water Quality Limits tables under "California Toxics Rule Criteria" and footnoted accordingly.]
  - Criteria for human health protection
    [Note: Use criteria for drinking water sources, consumption of water plus aquatic organisms, unless the MUN beneficial use has specifically been de-listed for the water body.]
  - Criteria for aquatic life protection
    [Note: Both the Criteria Continuous Concentration (CCC, 4-day average) and Criteria Maximum Concentration (CMC, 1-hour average) criteria apply. Sampling frequency should allow determination that both types of criteria are satisfied]
- Chemical Constituents Objective —
  each of the following three items apply separately
  - Drinking Water MCLs —
    select the lowest of the following
    - California Primary MCL
    - California Secondary MCL
  - Numerical water quality objective from the Basin Plan
    [Note: Objectives may supercede CTR or NTR criteria if approved by USEPA.]
  - Concentrations that indicate impairment of any designated beneficial use —
    select the lowest of the following
    - Agricultural use protective limits
    - Federal Primary MCL, if lower than California Primary MCL
      [See note under Groundwater Algorithm, above.]
- Toxicity Objective
  - Human health-risk based limits for drinking water use —
    normally in the following hierarchy
    [Note: Applies only if there are no CTR or NTR criteria for human health protection.]
    - OEHHA Public Health Goal
    - Cal/EPA cancer potency factor at the one-in-a-million risk level
      [See note under Groundwater Algorithm, above.]
    - California Drinking Water Action Level based on toxicity
    - USEPA IRIS criteria —
      select the lowest of the following
      - one-in-a-million cancer risk estimate
      - reference dose for non-cancer toxicity

FIGURE 3. GROUNDWATER ALGORITHM TABLE

Water Quality Objective / Criterion	Relevant Portion of Objective / Criterion	Source	Concentration	Units
Chemical Constituents	Drinking Water MCL (lowest)	DHS		
	Numerical Water Quality Objective	Basin Plan		
	Beneficial Use Impairment Limit			
Toxicity	Human Health – Drinking Water			
Tastes & Odors	Taste & Odor Based Limits for Water			

- USEPA Health Advisory —
  select the lowest of the following
  - one-in-a-million cancer risk estimate
  - lifetime non-cancer limit
- USEPA MCL Goals —
  non-zero values only
  [See note under Groundwater Algorithm, above.]
- Other health-risk based limits —
  check dates and basis before using these
  - National Academy of Sciences criteria
    select the lowest of
    - ♦ one-in-a-million incremental cancer risk estimate
    - ♦ drinking water health advisory
  - Proposition 65 levels —
    use only if no other health risk-based limits are available

➢ Human health-risk based limits that include fish consumption exposure
Note: Applies only if there are no CTR or NTR criteria for human health protection.]
- USEPA Recommended Ambient Water Quality Criteria (RAWQC) for human health protection *(Use criteria for drinking water sources, consumption of water plus aquatic organisms, unless the MUN beneficial use has specifically been de-listed for the water body. If based on cancer risk, check that current cancer risk factors are used.)*

➢ Aquatic life protective limits, *normally in the following hierarchy*
(applies only if there are no CTR or NTR criteria for aquatic life protection)
- California Department of Fish and Game hazard evaluation or water quality criteria
  [If available, both the Criteria Continuous Concentration (CCC, normally 4-day average) and Criteria Maximum Concentration (CMC, normally 1-hour average) criteria apply. Sampling frequency should allow determination that both types of criteria are satisfied]
- USEPA Recommended Ambient Water Quality Criteria (RAWQC)for aquatic life protection *[If available, both the Criteria Continuous Concentration (CCC, 4-day average or 24-hour average) and Criteria Maximum Concentration (CMC, 1-hour average or instantaneous maximum) criteria apply. Sampling frequency should allow determination that both types of criteria are satisfied.]*

❖ Tastes and Odors Objective
➢ Taste- and odor-based limits, *normally in the following hierarchy*
- California Secondary MCL
- Federal Secondary MCL
- USEPA National Ambient Water Quality Criterion based on taste & odor
- Taste & odor thresholds published by other agencies or from the peer reviewed literature

First, select one limit for each of the items above that begins with an arrow (➢). Record your selections in a table, such as the one shown in Figure 4.

Second, select the limit with the lowest concentration. (In the case of aquatic life criteria, both CCC and CMC limits apply, as noted above.) The result should be a limit that satisfies all applicable water quality objectives. Where aquatic life criteria vary with hardness, pH, or other factors, aquatic life criteria may be the most restrictive under some conditions while other limits in the above table may be more restrictive under other conditions. *Consideration of natural background levels and antidegradation may require further modifications to this selection, as discussed below.*

Limitations and Further Assistance

The above algorithms should be applied carefully, considering the factors of each specific case. Automatically selecting numerical limits according to these algorithms will not always generate the most appropriate limit. If specific beneficial uses do not apply, then limits protective of those uses should not be considered. It may be appropriate to deviate from the hierarchies listed above in specific cases. One may find that a particular limit is outdated or is in formal dispute at the agency that originally issued the limit (as was the case with the former Public Health Goal for chromium at OEHHA).

In another example, a California health-based limit may be less stringent than a comparable USEPA limit. Normally, we would prefer using the California limit over the one from USEPA. However, if the

California and USEPA limits are based on the same source of toxicologic information and the California limit is higher simply because it was "rounded off" from the USEPA limit, it may be appropriate to use the more precise USEPA limit. It may also be that a risk-management decision prevented the California limit from being set at the same level as the USEPA limit.

What these examples show is that, while an algorithm may be useful to guide the selection process, other information and good judgment need to be used in selecting the final water quality limits. To maintain defensibility, arbitrary selection of limits must be avoided. Selection should be based on sound rationale and should consider the circumstances of each case. Documentation of the rationale is very important, should the decision to use a particular limit be challenged or appealed.

Sufficiently similar circumstances should be addressed in the same manner. To that end, a table of applicable or relevant limits for commonly encountered chemicals has been generated, based on the above algorithms. The table *Recommended Numerical Limits to Translate Water Quality Objectives* may be found on the internet at http://www.swrcb.ca.gov/rwqcb5/available_documents/ under the subheading "Water Quality Goals." Limits appropriate for groundwater and inland surface waters are identified. The table does not include numerical water quality objectives from the Basin Plans, because these will vary from location to location and Region to Region. Make sure to consult the appropriate Basin Plan and add numerical objectives applicable to your particular situation. This table will be updated on a regular basis. In most cases, the most stringent applicable or relevant limit should be selected from the table to implement all applicable water quality objectives and promulgated criteria.

Controllable Factors and Antidegradation Policies

The selection of numerical limits, as discussed above, has only considered compliance with water quality objectives and promulgated water quality criteria (CTR/NTR). Additional factors govern the final selection of water quality limits. According to the *Controllable Factors Policy* in the implementation chapter of the Central Valley Region Basin Plans,

> "Controllable water quality factors are not allowed to cause further degradation of water quality in instances where other factors have already resulted in water quality objectives being exceeded. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, that are subject to the authority of the State Water Board or Regional Water Board, and that may be reasonably controlled."

Natural background water quality is an example of a water quality factor that is not controllable or is "uncontrollable." Where natural background water quality exceeds a water quality objective or the numerical

FIGURE 4. SURFACE WATER ALGORITHM TABLE

Water Quality Objective / Criterion	Relevant Portion of Objective / Criterion	Source	Concentration	Units
California Toxics Rule / National Toxics Rule	Human Health Protection	CTR or NTR		
	Aquatic Life Protection – CCC	CTR or NTR		
	Aquatic Life Protection – CMC	CTR or NTR		
Chemical Constituents	Drinking Water MCL (lowest)	DHS		
	Numerical Water Quality Objective	Basin Plan		
	Beneficial Use Impairment Limit			
Toxicity	Human Health – Drinking Water			
	Human Health – Fish Consumption	USEPA, NAWQC		
	Aquatic Life Protection – CCC			
	Aquatic Life Protection – CMC			
Tastes & Odors	Taste & Odor Based Limits			

limit chosen to translate the objective, the Basin Plan does not require improvement over the natural condition. However, the policy prohibits controllable factors from making the condition worse. In other words, if the natural concentration of a substance exceeds the limit derived from the above algorithms, then the natural concentration should be chosen as the applicable water quality limit for the water body. If there is a chance that local background water quality has been influenced by controllable factors (e.g., an upstream or upgradient discharge of waste), then the water quality objective or numerical limit chosen to translate the objective must not be exceeded. This latter situation is the default assumption for setting effluent limits in the NPDES program, as discussed above.

State Water Board Resolution No. 68-16, the State's *Antidegradation Policy*, requires that the quality of high quality waters be maintained "to the maximum extent possible." High quality means that the water is of better quality than water quality objectives for the constituent in question. This is a constituent by constituent evaluation. The policy allows water quality to be lowered but only if the discharger demonstrates that any change will:

(1) be consistent with the maximum benefit to the people of the State;
(2) not unreasonably affect the water's present and anticipated beneficial uses; and
(3) not result in water quality less than applicable water quality objectives.

In addition, the policy requires that discharges of waste to high quality waters meet best practicable treatment or control prior to discharge. If reasonably available technology can achieve constituent concentrations that are better than water quality objectives, then the Regional Water Board must require that the lower technology-based concentrations be met. In the NPDES program, this is the same as the requirement that both technology based and water quality based effluent limits be met for each constituent of the discharge. In site cleanup, State Water Board Resolution No. 92-49 affirmed the applicability of the *Antidegradation Policy* to the process of setting site cleanup levels. Cleanup levels must meet all applicable water quality objectives and must be the lowest concentrations that are technologically and economically achievable. In cases where cleanup technology cannot meet water quality objectives, Resolution No. 92-49 allows the Regional Water Board to establish a containment zone to manage residual pollution. A further discussion on cleanup levels is presented below.

Detection and Quantitation Limits

Analytical detection and quantitation limits may provide additional technologic limitations. When the water quality limit is lower than what can be quantified with appropriate analytical methods, the laboratory should be required to submit both detection and quantitation limits and to report "trace" results—results that are able to be detected but not quantified. For normal analytical work, quantitation limits may be found in the following references:

(1) Minimum Levels (MLs), State Water Board, *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2 March 2000), Appendix 4, available on the internet at http://www.swrcb.ca.gov/iswp.
(2) Detection Limits for Purposes of Reporting (DLRs), Department of Health Services, available on the internet at http://www.dhs.ca.gov/ps/ddwem/chemicals/DLR/dlrindex.htm.

Detection and quantitation limits may also be found in the method manuals from USEPA. Not all laboratories are equipped up to run all of the methods contained in these references.

(3) Method Detection Limits (MDLs) Practical Quantitation Limits (PQLs), USEPA analytical method documents, available on the internet at http://www.epa.gov/Standards.html.
    (a) SW-846, *Test Methods for Evaluating Solid Waste* (also contains water methods)
    (b) *Methods and Guidance for Analysis of Water*

If available methods cannot detect low enough concentrations to determine compliance with the water quality limit, then there is no choice but to assume that the constituent is not present in the sample. Methods with lower detection and quantitation limits may need to be specified for certain situations. The need for the information should balance the higher cost of such methods. For example, more expensive methods could be reserved for confirmation sampling or be required at a lower frequency. This is in keeping with Section 13267(b) of the California Water Code which instructs that Regional Water Boards, when requiring dischargers of waste to furnish technical reports, "[t]he burden,

including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports."

Justification

The selection of water quality limits for a particular case should be carefully documented. To be defensible, the limit selected for each constituent must be tied back to a numerical or narrative water quality objective from the Basin Plan or to a promulgated water quality criterion from CTR or NTR. Cite the factors used in selecting numerical limits to translate narrative objectives and to address uncontrollable factors and antidegradation. Include specific rationale in the documentation (e.g., that the selected limit is the most recently developed limit, that its use supports and is consistent with guidance from sister California agencies, that it has been peer reviewed, and that it addresses routes of exposure that are directly related to the beneficial use(s) being protected). The descriptions of the types of water quality limits, presented above, should be helpful in developing this documentation. The full justification for selected limits should be included in the findings and/or the Information Sheet of proposed permits, waste discharge requirements, and other Board orders.

An Example of Selecting Beneficial Use Protective Water Quality Limits

Suppose that you are investigating a site where a waste oil tank has leaked into the surrounding soils. Groundwater sampling results indicate that zinc, trichloroethylene (TCE), benzene, and xylene have reached groundwater. You want to know whether the levels of constituents detected in water samples are of significant concern.

The first step is to look at the *Water Quality Control Plan* (Basin Plan) for the particular Region in which your site is located. Upon examination of that document, you determine that the beneficial uses designated for groundwater beneath this site are municipal and domestic supply (MUN) and agricultural supply (AGR). No numerical groundwater quality objectives are listed in the Basin Plan for the constituents of concern. However, there are three narrative objectives that apply:

- *Chemical Constituents*
  Groundwaters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
  At a minimum, groundwaters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in Title 22 of the California Code of Regulations.
- *Toxicity*
  Groundwaters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s). This objective applies regardless of whether the toxicity is caused by a singled substance or the interactive effect of multiple substances.
- *Tastes and Odors*
  Groundwaters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

Together, these beneficial uses and water quality objectives constitute the water quality standards for the constituents in groundwater at the site. The next step is to select water quality limits to interpret these narrative objectives. The tables of this report contain an extensive list of such numerical limits. First we will review these limits to determine which are most appropriate to translate the above objectives. Second, we will apply the groundwater algorithm to see whether it achieves the same result.

The chemical constituents objective from the *Basin Plan* incorporates by reference California maximum contaminant levels (MCLs) for drinking water. The Basin Plans do not differentiate between Primary and Secondary MCLs, so both types of limits apply. These drinking water standards are:

Zinc	5000 ug/L
TCE	5 ug/L
Benzene	1 ug/L
Xylene	1750 ug/L

This objective also prohibits chemical constituents in concentrations that adversely affect beneficial uses. A review of available limits shows that one of the constituents of concern for our site could adversely affect the use of groundwater for agricultural supply. An agricultural water use limit for zinc is 2000 ug/L.

Agricultural use protective numerical limits are not available for the organic solvents. Note that this zinc limit is more stringent than the MCL. Agricultural uses of water are not necessarily protected by compliance with MCLs alone.

To protect long term municipal water use, federal drinking water MCLs that are lower than California MCLs are also relevant limits. However, federal MCLs for benzene (5 ug/L) and xylene (10,000 ug/L) are less stringent than California MCLs. Federal MCLs for zinc and TCE are the same as California MCLs.

The water quality objective for toxicity, stated above, requires that toxic substances not be present in water in toxic amounts. Human health-based limits for drinking water exposures are relevant because humans using the groundwater for municipal or domestic water supply could experience toxic effects if exposed to the chemicals of concern above these limits. Health-based National Ambient Water Quality Criteria and CTR/NTR criteria from USEPA are not appropriate to this case, because those limits assume that exposure occurs through ingestion of contaminated fish and shellfish. This exposure route is not relevant for groundwater.

Relevant health-based limits for zinc include:

USEPA IRIS Reference Dose	2100 ug/L
USEPA Health Advisory	2000 ug/L

IRIS values are usually preferred over health advisories, because they are intended to reflect USEPA's most recent health risk information. In this case, the health advisory was derived from the IRIS reference dose by rounding to one significant figure.

Health-based limits for TCE include:

Primary MCL	5	ug/L
California Public Health Goal	0.8	ug/L
Cal/EPA Cancer Potency Factor	2.3	ug/L
USEPA Health Advisory – cancer	3	ug/L
NAS cancer risk level	1.5	ug/L
Proposition 65 regulatory level	25	ug/L

The MCL is not purely health protective because it was based on quantitation limits of older analytical methods. The Proposition 65 regulatory level is based on the less-appropriate 10^{-5} cancer risk level. All of the remaining limits are based on the 10^{-6} cancer risk level. To be consistent with other California government agencies, the California-derived limits (the PHG and the Cal/EPA cancer potency factor) are preferred over USEPA and NAS limits for use in California. The PHG is more protective because it includes exposure through inhalation and dermal contact caused by in-home water use in addition to direct ingestion of water. The PHG is also a more recent limit than the Cal/EPA cancer potency factor. The NAS criterion from *Drinking Water and Health* is least relevant because it is much older than the other limits, and because it was "based on limited evidence," as indicated in a footnote in the *Water Quality Limits* tables.

Relevant health-based values for benzene include:

California Primary MCL	1	ug/L
USEPA Primary MCL	5	ug/L
California Public Health Goal	0.15	ug/L
USEPA IRIS Reference Dose	28	ug/L
10-day USEPA Health Advisory	200	ug/L
Cal/EPA Cancer Potency Factor	0.35	ug/L
IRIS Cancer Potency Factor	1 to 10	ug/L
USEPA Health Advisory – cancer	1	ug/L
Prop. 65 No Significant Risk Level	3.5	ug/L
Prop. 65 Max. Allowable Dose Level	12	ug/L

The USEPA Primary MCL is not purely health protective because it was based on the quantitation limits of older analytical methods. The Proposition 65 No Significant Risk Level is based on the less-appropriate 10^{-5} cancer risk level. The Proposition 65 Maximum Allowable Dose Level, the USEPA IRIS reference dose, and the 10-day USEPA health advisory are significantly higher than the cancer based limits, so they are not protective against significant cancer risks. The 10-day USEPA health advisory does not protect against health effects that could occur through longer-term water use. The California Primary MCL may not be purely health protective by comparison to the remaining health-based limits. Of the remaining limits, the PHG is the most recent California-derived value. The Cal/EPA cancer potency factor is less health protective because it does not account for inhalation and dermal exposures included in calculation of the PHG.

Health-based limits for xylene include:

California Primary MCL	1750 ug/L
USEPA Primary MCL	10,000 ug/L
USEPA MCL Goal	10,000 ug/L
California Public Health Goal	1800 ug/L

USEPA IRIS Reference Dose	1400 ug/L
USEPA Health Advisory	10,000 ug/L

The USEPA IRIS reference does is the most stringent and most recent limit. However, California derived limits are preferred for consistency within California government. The California Primary MCL and the PHG are virtually identical limits, with the PHG being published more recently. The difference between these two limits reflect only the number of significant figures assumed.

In summary, appropriate health-based numerical water quality limits for use in interpreting the toxicity objective for the constituents of concern at our site are:

Zinc	2100	ug/L	USEPA IRIS RfD
TCE	0.8	ug/L	Calif. Public Health Goal
Benzene	0.15	ug/L	Calif. Public Health Goal
Xylene	1800	ug/L	Calif. Public Health Goal

The third water quality objective stated above requires that water not contain substances that could impart objectionable tastes or odors to water supplies. Groundwater beneath our site is designated as municipal and domestic supply. Taste- and odor-based (organoleptic) levels include:

- California and federal Secondary MCLs;
- USEPA National Ambient Water Quality Criteria based on taste & odor or welfare; and
- Other taste and odor thresholds from the scientific and regulatory literature.

For the constituents of concern, taste- and odor- based numerical limits are:

Zinc	5000 ug/L
TCE	310 ug/L
Benzene	170 ug/L
Xylene	17 ug/L

Note that xylene can make water taste or smell bad at a concentration that is over 100-fold lower than the health-based MCL. The USEPA Secondary MCL for xylene, at 20 ug/L, was actually rounded from and is slightly higher than the taste and odor threshold. However, it is only a proposed value.

So far, we have reviewed the available water quality limits and selected those most appropriate to interpret each of the applicable narrative water quality objectives for each constituent of concern. Following the groundwater algorithm, presented above, achieves the same result. Selecting a limit for each constituent and for each arrow bullet in the algorithm leads to the list of limits in Figure 5.

The most stringent of these limits for each constituent of concern would ensure compliance with all water quality objectives and should protect all beneficial uses. Therefore, the beneficial use protective water quality limits for the constituents of concern in groundwater at our leaking waste oil tank site are:

Zinc	2000	ug/L	Agricultural Use Limit
TCE	0.8	ug/L	Calif. Public Health Goal
Benzene	0.15	ug/L	Calif. Public Health Goal
Xylene(s)	17	ug/L	Taste & Odor Threshold

Measured concentrations in groundwater which exceed these limits would be considered to violate applicable water quality standards.

The reader is cautioned that these values would apply to groundwater at the hypothetical site in this example, and not necessarily to water bodies in other locations. Water resources at other sites may have different beneficial use designations and water quality objectives than presented in this example.

In our example, the solvents (TCE, benzene and xylenes) are not normally present naturally in groundwater. So aquifer-specific background levels are not relevant to beneficial use protection. Where natural background concentrations are higher than the limits selected to determine compliance with all applicable water quality objectives, the Regional Water Board would not normally require the site owner or operator to improve upon these background conditions. In such cases, the background concentrations are considered to comply with the applicable water quality limits.

In addition, strict application of California's *Antidegradation Policy* would require that background levels of chemicals in groundwater ("zero" for man-made substances such as solvents, at most sites) be selected as appropriate water quality limits if some water quality degradation is not found to be consistent with maximum benefit to the people of the state or do not represent best practicable treatment or control. Cleanup of groundwater to meet background levels would be required unless attaining such levels is determined to be technologically or economically infeasible. If cleanup levels higher than background are selected, those levels may not exceed applicable water quality standards, i.e., they should not exceed the

FIGURE 5. WATER QUALITY LIMITS FOR CONSTITUENTS OF CONCERN (COCs)

COC	Water Quality Objective / Criterion	Relevant Portion of Objective / Criterion	Source	Concentration	Units
Zinc	Chemical Constituents	Secondary Drinking Water MCL	DHS, Title 22 of CCR	5000	ug/L
		Numerical Water Quality Objective	Basin Plan	none	
		Beneficial Use Impairment Limit	Water Quality for Agriculture	2000	ug/L
	Toxicity	Human Health -- Drinking Water	USEPA IRIS Reference Dose	2100	ug/L
	Tastes and Odors	Taste & Odor Based Limit	California Secondary MCL	5000	ug/L
TCE	Chemical Constituents	Primary Drinking Water MCL	DHS, Title 22 of CCR	5	ug/L
		Numerical Water Quality Objective	Basin Plan	none	
		Beneficial Use Impairment Limit		none	
	Toxicity	Human Health -- Drinking Water	California Public Health Goal	0.8	ug/L
	Tastes and Odors	Taste & Odor Based Limit	Amoore and Hautala	310	ug/L
Benzene	Chemical Constituents	Primary Drinking Water MCL	DHS, Title 22 of CCR	1	ug/L
		Numerical Water Quality Objective	Basin Plan	none	
		Beneficial Use Impairment Limit		none	
	Toxicity	Human Health -- Drinking Water	California Public Health Goal	0.15	ug/L
	Tastes and Odors	Taste & Odor Based Limit	Amoore and Hautala	170	ug/L
Xylene(s)	Chemical Constituents	Primary Drinking Water MCL	DHS, Title 22 of CCR	1750	ug/L
		Numerical Water Quality Objective	Basin Plan	none	
		Beneficial Use Impairment Limit		none	
	Toxicity	Human Health -- Drinking Water	California Public Health Goal	1800	ug/L
	Tastes and Odors	Taste & Odor Based Limit	USEPA	17	ug/L

beneficial use protective water quality limits selected above.

ADDITIVE TOXICITY CRITERION FOR MULTIPLE CONSTITUENTS

When multiple constituents have been found together in groundwater or surface waters, their combined toxicity should be evaluated. In the absence of scientifically valid data to the contrary, Section 2550.4(g) of the Chapter 15, Article 5 regulations, which is referenced in the State Water Board's *Site Investigation and Cleanup Policy*, requires that theoretical risks from chemicals found together in a water body "shall be considered additive for all chemicals having similar toxicologic effects or having carcinogenic effects." Some *Water Quality Control Plans*, including both Basin Plans for the Central Valley Region, also require that combined toxicological effects be considered in this manner. This requirement is also found in the California hazardous waste management regulations [Title 22 of CCR, Section 66264.94(f)], and in the USEPA Risk Assessment Guidance for Superfund (RAGS).

The commonly used toxicologic formula for assessing additive risk is:

$$\sum_{i=1}^{n} \frac{[\text{Concentration of Constituent}]_i}{[\text{Toxicologic Limit in Water}]_i} < 1.0$$

The concentration of each constituent is divided by its toxicologic limit. The resulting ratios—normalized concentrations—are added for constituents having similar toxicologic effects and, separately, for carcinogens. If the sum is less than one (1.0), no additive toxicity problem is assumed to exist. If the summation is equal to or greater than one, the combination of chemicals is assumed to present an unacceptable level of health risk.

For our leaking waste oil tank example discussed above, monitoring shows that groundwater quality beneath the site has been degraded by four constituents of concern in the following concentrations:

Zinc	1300	ug/L
TCE	0.7	ug/L
Benzene	0.1	ug/L
Xylene	9	ug/L

None of these concentrations exceeds beneficial use protective water quality limits for the individual constituents.

However, two of these constituents, TCE and benzene, are associated with cancer risk. The Public Health Goals for TCE and benzene were established at their respective one-in-a-million incremental cancer risk levels:

TCE	0.8	ug/L
Benzene	0.15	ug/L

Individually, no chemical exceeds its toxicologic limit. However, an additive cancer risk calculation shows:

$$\frac{0.7}{0.8} + \frac{0.1}{0.15} = 1.5$$

The sum of the ratios is greater than unity (>1.0); therefore, the additive toxicity criterion has been violated. The chemicals together present an unacceptable level of toxicity—in this case, an overall cancer risk greater than one-in-a-million.

CLEANUP LEVELS IN WATER

If contaminants are found to impair or threaten the beneficial uses of groundwater or surface water resources, cleanup levels in water must be chosen. To satisfy State Water Board Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*, the *Antidegradation Policy*, and Section 2550.4 of Title 23 of CCR, cleanup levels for constituents in water are to be chosen at or below applicable water quality standards. Beneficial use protective water quality limits, selected using the procedures discussed above, may be used to determine that remaining constituents do not exceed these standards. In addition, such cleanup levels must also:

- not result in excessive exposure to sensitive biological receptors;
- not pose a substantial present or potential hazard to human health or the environment;
- not exceed the maximum concentration allowable under applicable statutes or regulations; and
- be the lowest concentration for each individual constituent that is technologically and economically achievable, toward background levels.

Conventional health and ecological risk assessment procedures can be used to satisfy the first and second of these additional requirements. Feasibility studies provide information that can be used to satisfy the last requirement.

CONCLUSION AND STATUS

This staff report has been developed to provide a uniform method and a convenient source of numerical limits for consistently determining compliance with California's water quality standards. It is referenced for this use in both *Water Quality Control Plans* for the Central Valley Region.

This report has been used by the State Water Board and the other Regional Water Boards as a reference for selecting numerical water quality limits. This report has also been referenced in the *Water Quality Control Plan* for the San Francisco Bay Region.

A Compilation of Water Quality Goals will be updated and expanded to account for newly developed numerical water quality information, as needed and as Regional Board staff resources are made available for that effort.

CROSS REFERENCE OF CHEMICAL NAMES

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
A	2-AAF	Organic	2-Acetylaminofluorene	53-96-3
	A-alpha-C	Organic	A-alpha-C	26148-68-5
	Aatrex	Organic	Atrazine	1912-24-9
	Abamectin	Organic	Avermectin B1	65195-55-3
	Acenaphthene	Organic	Acenaphthene	83-32-9
	Acenaphthylene	Organic	Acenaphthylene	208-96-8
	Acephate	Organic	Acephate	30560-19-1
	Acetaldehyde	Organic	Acetaldehyde	75-07-0
	Acetaldehyde methylformylhydrazone	Organic	Gyromitrin	16568-02-8
	Acetamide	Organic	Acetamide	60-35-5
	2-Acetaminofluorene	Organic	2-Acetylaminofluorene	53-96-3
	Acetic acid	Organic	Acetic acid	64-19-7
	Acetic acid amide	Organic	Acetamide	60-35-5
	Acetochlor	Organic	Acetochlor	34256-82-1
	Acetone	Organic	Acetone	67-64-1
	Acetonitrile	Organic	Acetonitrile	75-05-8
	Acetophenone	Organic	Acetophenone	98-86-2
	2-Acetylaminofluorene	Organic	2-Acetylaminofluorene	53-96-3
	Acetylene	Organic	Acetylene	74-86-2
	Acifluorfen	Organic	Acifluorfen	62476-59-9
	Acrolein	Organic	Acrolein	107-02-8
	Acrylamide	Organic	Acrylamide	79-06-1
	Acrylic acid	Organic	Acrylic acid	79-10-7
	Acrylonitrile	Organic	Acrylonitrile	107-13-1
	Actinomycin D	Organic	Actinomycin D	50-76-0
	Advantage	Organic	Carbosulfan	55285-14-8
	AF-2	Organic	AF-2	3688-53-7
	Aflatoxins	Organic	Aflatoxins	1402-68-2
	Ag	Inorganic	Silver	7440-22-4
	Al	Inorganic	Aluminum	7429-90-5
	Alachlor	Organic	Alachlor	15972-60-8
	Alanex	Organic	Alachlor	15972-60-8
	Alanine nitrogen mustard	Organic	Melphalan	148-82-3
	Alar	Organic	Daminozide	1596-84-5
	Aldicarb	Organic	Aldicarb	116-06-3
	Aldicarb sulfone	Organic	Aldicarb sulfone	1646-88-4
	Aldicarb sulfoxide	Organic	Aldicarb sulfoxide	1646-87-3
	Aldrin	Organic	Aldrin	309-00-2
	Aldrosol	Organic	Aldrin	309-00-2
	Aliette	Organic	Fosetyl-al	39148-24-8
	Alkalinity	Inorganic	Alkalinity	
	Alkeran	Organic	Melphalan	148-82-3
	Ally	Organic	Ally	74223-64-6
	Allyl alcohol	Organic	Allyl alcohol	107-18-6
	Allyl chloride	Organic	3-Chloropropene	107-05-1
	4-Allyl-1,2-methylenedioxybenzene	Organic	Safrole	94-59-7
	Allyl trichloride	Organic	1,2,3-Trichloropropane	96-18-4
	Alochlor	Organic	Alachlor	15972-60-8
	alpha,alpha,alpha-Trichlorotoluene	Organic	Benzotrichloride	98-07-7
	Altrad	Organic	Estradiol 17B	50-28-2
	Aluminum	Inorganic	Aluminum	7429-90-5
	Aluminum phosphide	Inorganic	Aluminum phosphide	20859-73-8
	Amber	Organic	Triasulfuron	82097-50-5
	Amdro	Organic	Amdro	67485-29-4
	Ametrex	Organic	Ametryn	834-12-8
	Ametryn	Organic	Ametryn	834-12-8
	Ametycine	Organic	Mitomycin C	50-07-7
	Amiben	Organic	Chloramben	133-90-4
	2-Amino-alpha-carboline	Organic	A-alpha-C	26148-68-5
	1-Amino-4-chlorobenzene	Organic	p-Chloroaniline	106-47-8
	4'-Amino-2,3-dimethylazobenzene	Organic	o-Aminoazotoluene	97-56-3
	Amino-2,4-dimethylbenzene	Organic	2,4-Xylidine	1300-73-8
	Amino-2,6-dimethylbenzene	Organic	2,6-Xylidine	87-62-7
	2-Amino-3,4-dimethylimidazo(4,5-f)quinoline	Organic	MeIQ	77094-11-2
	2-Amino-3,8-dimethylimidazo(4,5-f)quinoxaline	Organic	MeIQx	77500-04-0
	2-Amino-9H-pyrido(2,3-b)indole	Organic	A-alpha-C	26148-68-5
	2-Amino-6-methyldipyrido[1,2-a:3',2'-d]-imidazole	Organic	Glu-P-1	67730-11-4
	2-Amino-3-methyl-9H-pyrido-[2,3-b]indole	Organic	Me-A-alpha-C	68006-83-7
	2-Amino-3-methylimidazo[4,5-f]quinoline	Organic	IQ	76180-96-6
	o-Aminoanisole	Organic	o-Anisidine	90-04-0
	2-Aminoanthraquinone	Organic	2-Aminoanthraquinone	117-79-3
	o-Aminoazotoluene	Organic	o-Aminoazotoluene	97-56-3
	Aminobenzene	Organic	Aniline	62-53-3
	4-Aminobiphenyl	Organic	4-Aminobiphenyl	92-67-1
	1-Aminobutane	Organic	n-Butylamine	109-73-9
	Aminocyclohexane	Organic	Cyclohexylamine	108-91-8
	4-Aminodiphenyl	Organic	4-Aminobiphenyl	92-67-1
	Aminoethane	Organic	Ethylamine	75-04-7
	2-Aminoethanol	Organic	Ethanolamine	141-43-5
	3-Amino-9-ethylcarbazole hydrochloride	Organic	3-Amino-9-ethylcarbazole hydrochloride	6109-97-3
	Aminomethane	Organic	Methylamine	74-89-5
	1-Amino-2-methylanthraquinone	Organic	1-Amino-2-methylanthraquinone	82-28-0
	2-Aminonaphthalene	Organic	2-Methyl-1-nitroanthraquinone	129-15-7
	2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	Organic	2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	712-68-5
	2-Aminopropane	Organic	Isopropylamine	75-31-0

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
2-Aminopyrido[1,2-a:3',2'-d]-imidazole	Organic	Glu-P-2	67730-10-3
2-Aminotoluene	Organic	o-Toluidine	95-53-4
3-Amino-1,2,4-triazole	Organic	Amitrole	61-82-5
Amitraz	Organic	Amitraz	33089-61-1
Amitrole	Organic	Amitrole	61-82-5
Ammonia	Inorganic	Ammonia	7664-41-7
Ammonium	Inorganic	Ammonia	7664-41-7
Ammonium nitroso-beta-phenylhydroxylamine	Organic	Cupferron	135-20-6
Ammonium sulfamate	Inorganic	Ammonium sulfamate	7773-06-0
n-Amyl acetate	Organic	n-Amyl acetate	628-63-7
Amyl aldehyde	Organic	n-Valeraldehyde	110-62-3
Aniline	Organic	Aniline	62-53-3
o-Anisidine	Organic	o-Anisidine	90-04-0
Antergon	Organic	Maleic hydrazide	123-33-1
Anthracene	Organic	Anthracene	120-12-7
Antimony	Inorganic	Antimony	7440-36-0
Antioxyne B	Organic	Butylated hydroxyanisole	25013-16-5
Apollo	Organic	Apollo	74115-24-5
Aquacide	Organic	Diquat	85-00-7
Aracide	Organic	Aramite	140-57-8
Aramite	Organic	Aramite	140-57-8
Arilate	Organic	Benomyl	17804-35-2
Arsenic	Inorganic	Arsenic	7440-38-2
Arsine	Inorganic	Arsine	7784-42-1
As	Inorganic	Arsenic	7440-38-2
Asbestos	Inorganic	Asbestos	1332-21-4
AsH3	Inorganic	Arsine	7784-42-1
Assure	Organic	Assure	76578-14-8
Asulam	Organic	Asulam	3337-71-1
Atranex	Organic	Atrazine	1912-24-9
Atrazine	Organic	Atrazine	1912-24-9
Auramine	Organic	Auramine	492-80-8
Avenge	Organic	Difenzoquat	43222-48-6
Avermectin B1	Organic	Avermectin B1	65195-55-3
9-Azafluorene	Organic	Carbazole	86-74-8
1-Azanaphthalene	Organic	Quinoline	91-22-5
Azaserine	Organic	Azaserine	115-02-6
Azathioprine	Organic	Azathioprine	446-86-6
Azide, sodium	Inorganic	Sodium azide	26628-22-8
Azimethiphos	Organic	Cyromazine	66215-27-8
Azinone	Organic	Norflurazon	27314-13-2
Azinphos-methyl	Organic	Azinphos-methyl	86-50-0
Aziridine	Organic	Ethyleneimine	151-56-4
Azoamine scarlet	Organic	5-Nitro-o-anisidine	99-59-2
Azobenzene	Organic	Azobenzene	103-33-3

B

B	Inorganic	Boron	7440-42-8
Ba	Inorganic	Barium	7440-39-3
Balan	Organic	Benefin	1861-40-1
Banner	Organic	Propiconazole	60207-90-1
Banvel	Organic	Dicamba	1918-00-9
BaP	Organic	Benzo(a)pyrene	50-32-8
Baridol	Organic	Estradiol 17B	50-28-2
Barium	Inorganic	Barium	7440-39-3
Basagran	Organic	Bentazon	25057-89-0
Basic lead acetate	Organic	Lead subacetate	1335-32-6
Basic parafuchsine	Organic	C. I. Basic Red 9 monohydrochloride	569-61-9
Basta	Organic	Glufosinate-ammonium	77182-82-2
Basudin	Organic	Diazinon	333-41-5
Baygon	Organic	Baygon	114-26-1
Bayleton	Organic	Bayleton	43121-43-3
Baythroid	Organic	Baythroid	68359-37-5
BCEE	Organic	Bis(2-chloroethyl) ether	111-44-4
BCIE	Organic	Bis(2-chloroisopropyl) ether	108-60-1
BCME	Organic	Bis(chloromethyl) ether	542-88-1
BDCM	Organic	Bromodichloromethane	75-27-4
BDE-153	Organic	2,2',4,4',5,5'-Hexabromodiphenyl ether	68631-49-2
BDE-209	Organic	Decabromodiphenyl ether	1163-19-5
BDE-47	Organic	2,2',4,4'-Tetrabromodiphenyl ether	5436-43-1
BDE-99	Organic	2,2',4,4',5-Pentabromodiphenyl ether	60348-60-9
Be	Inorganic	Beryllium	7440-41-7
Benefin	Organic	Benefin	1861-40-1
Benfluralin	Organic	Benefin	1861-40-1
Benlate	Organic	Benomyl	17804-35-2
Benomyl	Organic	Benomyl	17804-35-2
Bensylyte	Organic	Phenoxybenzamine	59-96-1
Bentazon	Organic	Bentazon	25057-89-0
Benthiocarb	Organic	Thiobencarb	28249-77-6
Benzaldehyde	Organic	Benzaldehyde	100-52-7
Benzamine	Organic	Aniline	62-53-3
1,2-Benzanthracene	Organic	Benz(a)anthracene	56-55-3
Benz(a)anthracene	Organic	Benz(a)anthracene	56-55-3
1-Benzazine	Organic	Quinoline	91-22-5
Benzene	Organic	Benzene	71-43-2
1,2-Benzenediamine	Organic	o-Phenylenediamine	95-54-5

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
alpha-Benzene hexachloride	Organic	alpha-BHC	319-84-6
beta-Benzene hexachloride	Organic	beta-BHC	319-85-7
delta-Benzene hexachloride	Organic	delta-BHC	319-86-8
gamma-Benzene hexachloride	Organic	gamma-BHC (Lindane)	58-89-9
technical-Benzene hexachloride	Organic	technical-BHC	608-73-1
Benzenes, chlorinated	Organic	Chlorinated benzenes	
Benzenes, dichloro-	Organic	Dichlorobenzenes	25321-22-6
Benzenes, trichloro-	Organic	Trichlorobenzenes	12002-48-1
Benzidine	Organic	Benzidine	92-87-5
Benzo(a)anthracene	Organic	Benz(a)anthracene	56-55-3
1,3-Benzodioxole	Organic	Dihydrosafrole	94-58-6
10,11-Benzofluoranthene	Organic	Benzo(j)fluoranthene	205-82-3
3,4-Benzofluoranthene	Organic	Benzo(b)fluoranthene	205-99-2
8,9-Benzofluoranthene	Organic	Benzo(k)fluoranthene	207-08-9
Benzo(b)fluoranthene	Organic	Benzo(b)fluoranthene	205-99-2
Benzo(j)fluoranthene	Organic	Benzo(j)fluoranthene	205-82-3
Benzo(k)fluoranthene	Organic	Benzo(k)fluoranthene	207-08-9
Benzofuran	Organic	Benzofuran	271-89-6
Benzoic acid	Organic	Benzoic acid	65-85-0
1,12-Benzoperylene	Organic	Benzo(g,h,i)perylene	191-24-2
Benzo(g,h,i)perylene	Organic	Benzo(g,h,i)perylene	191-24-2
3,4-Benzopyrene	Organic	Benzo(a)pyrene	50-32-8
Benzo(a)pyrene	Organic	Benzo(a)pyrene	50-32-8
Benzopyridine	Organic	Quinoline	91-22-5
1,4-Benzoquinone	Organic	Quinone	106-51-4
Benzotrichloride	Organic	Benzotrichloride	98-07-7
Benzyl butyl phthalate	Organic	n-Butyl benzyl phthalate	85-68-7
Benzyl chloride	Organic	Benzyl chloride	100-44-7
Benzyl violet 4B	Organic	Benzyl violet 4B	1694-09-3
Beryllium	Inorganic	Beryllium	7440-41-7
Beryllium oxide	Inorganic	Beryllium oxide	1304-56-9
Beryllium sulfate	Inorganic	Beryllium sulfate	13510-49-1
Betanal	Organic	Phenmedipham	13684-63-4
BHA	Organic	Butylated hydroxyanisole	25013-16-5
alpha-BHC	Organic	alpha-BHC	319-84-6
beta-BHC	Organic	beta-BHC	319-85-7
gamma-BHC (Lindane)	Organic	gamma-BHC (Lindane)	58-89-9
delta-BHC	Organic	delta-BHC	319-86-8
technical-BHC	Organic	technical-BHC	608-73-1
Bidrin	Organic	Dicrotophos	141-66-2
Bifenthrin	Organic	Biphenthrin	82657-04-3
Biofurcina	Organic	Nitrofurazone	59-87-0
Biphenthrin	Organic	Biphenthrin	82657-04-3
1,1-Biphenyl	Organic	1,1-Biphenyl	92-52-4
4-Biphenylamine	Organic	4-Aminobiphenyl	92-67-1
Bis(4-aminophenyl)ether	Organic	4,4'-Diaminodiphenyl ether	101-80-4
Bis-butyl phthalate	Organic	Dibutyl phthalate	84-74-2
Bis(2-chloro-1-methylethyl) ether	Organic	Bis(2-chloroisopropyl) ether	108-60-1
Bis(2-chloroethoxy) methane	Organic	Bis(2-chloroethoxy) methane	111-91-1
Bis(2-chloroethyl) ether	Organic	Bis(2-chloroethyl) ether	111-44-4
Bis(2-chloroisopropyl) ether	Organic	Bis(2-chloroisopropyl) ether	108-60-1
Bis(chloromethyl) ether	Organic	Bis(chloromethyl) ether	542-88-1
Bisclofentezine	Organic	Apollo	74115-24-5
Bis(p-(dimethylanino)phenyl)methane	Organic	4,4'-Methylenebis(N,N-dimethyl)aniline	101-61-1
Bis(2-ethylhexyl) phthalate	Organic	Di(2-ethylhexyl)phthalate	117-81-7
Bis-ethyl phthalate	Organic	Diethyl phthalate	84-66-2
Bis(4-hydroxyphenyl)propane	Organic	Bisphenol A	80-05-7
Bis-methyl phthalate	Organic	Dimethyl phthalate	131-11-3
Bis-n-octyl phthalate	Organic	Di(n-octyl) phthalate	117-84-0
Bis(pentabromophenyl) ether	Organic	Decabromodiphenyl ether	1163-19-5
Bisphenol A	Organic	Bisphenol A	80-05-7
Bivinyl	Organic	1,3-Butadiene	106-99-0
BLA	Organic	Lead subacetate	1335-32-6
Bladex	Organic	Cyanazine	21725-46-2
Blazer	Organic	Acifluorfen	62476-59-9
Bolero	Organic	Thiobencarb	28249-77-6
Boron	Inorganic	Boron	7440-42-8
BPBG	Organic	Butylphthalyl butylglycolate	85-70-1
Br-	Inorganic	Bromide	24959-67-9
Bravo	Organic	Chlorothalonil	1897-45-6
Brigade	Organic	Biphenthrin	82657-04-3
Bromacil	Organic	Bromacil	314-40-9
Bromate	Inorganic	Bromate	15541-45-4
2-Bromo-2-chloro-1,1,1-trifluoroethane	Organic	Halothane	151-67-7
Bromide	Inorganic	Bromide	24959-67-9
Bromine	Inorganic	Bromine	7726-95-6
Bromine cyanide	Inorganic	Cyanogen bromide	506-68-3
Bromoacetic acid	Organic	Bromoacetic acid	79-08-3
Bromobenzene	Organic	Bromobenzene	108-86-1
Bromochloromethane	Organic	Bromochloromethane	74-97-5
Bromodichloromethane	Organic	Bromodichloromethane	75-27-4
p-Bromodiphenyl ether	Organic	4-Bromophenyl phenyl ether	101-55-3
Bromoethane	Organic	Ethyl bromide	74-96-4
Bromoethene	Organic	Vinyl bromide	593-60-2
Bromoethylene	Organic	Vinyl bromide	593-60-2

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
	Bromoform	Organic	Bromoform	75-25-2
	Bromomethane	Organic	Bromomethane	74-83-9
	4-Bromophenyl phenyl ether	Organic	4-Bromophenyl phenyl ether	101-55-3
	Bromoxynil	Organic	Bromoxynil	1689-84-5
	Bromoxynil octanoate	Organic	Bromoxynil octanoate	1689-99-2
	BTS 40542	Organic	Prochloraz	67747-09-5
	Busan 85	Organic	Potassium dimethyldithiocarbamate	
	Butachlor	Organic	Butachlor	23184-66-9
	1,3-Butadiene	Organic	1,3-Butadiene	106-99-0
	Butane	Organic	Butane	106-97-8
	Butanedioic acid mono(2,2-dimethyl hydrazide)	Organic	Daminozide	1596-84-5
	1-Butanethiol	Organic	n-Butyl mercaptan	109-79-5
	Butanex	Organic	Butachlor	23184-66-9
	2-Butanol	Organic	sec-Butyl alcohol	78-92-2
	sec-Butanol	Organic	sec-Butyl alcohol	78-92-2
	t-Butanol	Organic	tert-Butyl alcohol	75-65-0
	n-Butanol	Organic	n-Butanol	71-36-3
	2-Butanone	Organic	Methyl ethyl ketone	78-93-3
	trans-2-Butenal	Organic	trans-Crotonaldehyde	4170-30-3
	Butiphos	Organic	Merphos oxide	78-48-8
	2-Butoxy ethanol	Organic	Ethylene glycol monobutyl ether	111-76-2
	Butter yellow	Organic	4-Dimethylaminoazobenzene	60-11-7
	n-Butyl acetate	Organic	n-Butyl acetate	123-86-4
	n-Butyl acrylate	Organic	n-Butyl acrylate	141-32-2
	n-Butyl alcohol	Organic	n-Butanol	71-36-3
	t-Butyl alcohol	Organic	tert-Butyl alcohol	75-65-0
	sec-Butyl alcohol	Organic	sec-Butyl alcohol	78-92-2
	tert-Butyl alcohol	Organic	tert-Butyl alcohol	75-65-0
	n-Butylamine	Organic	n-Butylamine	109-73-9
	Butylate	Organic	Butylate	2008-41-5
	Butylated hydroxyanisole	Organic	Butylated hydroxyanisole	25013-16-5
	n-Butylbenzene	Organic	n-Butylbenzene	104-51-8
	sec-Butylbenzene	Organic	sec-Butylbenzene	135-98-8
	tert-Butylbenzene	Organic	tert-Butylbenzene	98-06-6
	n-Butyl benzyl phthalate	Organic	n-Butyl benzyl phthalate	85-68-7
	Butyl glycolyl butyl phthalate	Organic	Butylphthalyl butylglycolate	85-70-1
	n-Butyl lactate	Organic	n-Butyl lactate	138-22-7
	n-Butyl mercaptan	Organic	n-Butyl mercaptan	109-79-5
	Butylphthalyl butylglycolate	Organic	Butylphthalyl butylglycolate	85-70-1
	p-tert-Butyltoluene	Organic	p-tert-Butyltoluene	98-51-1
	beta-Butyrolactone	Organic	beta-Butyrolactone	96-48-0
C	Cadmium	Inorganic	Cadmium	7440-43-9
	Calcium cyanide	Inorganic	Calcium cyanide	592-01-8
	2-Camphanone	Organic	Camphor	464-49-3
	Camphechlor	Organic	Toxaphene	8001-35-2
	Camphor	Organic	Camphor	464-49-3
	Campogran	Organic	Furmecyclox	60568-05-0
	Caprolactam	Organic	Caprolactam	105-60-2
	Captafol	Organic	Captafol	190444
	Captan	Organic	Captan	133-06-2
	Carbamic acid, methyl ester	Organic	Methyl carbamate	598-55-0
	Carbaryl	Organic	Carbaryl	63-25-2
	Carbam-S	Organic	Sodium dimethyldithiocarbamate	128-04-1
	Carbathiin	Organic	Carboxin	5234-68-4
	Carbazole	Organic	Carbazole	86-74-8
	Carbofuran	Organic	Carbofuran	1563-66-2
	Carbon bisulfide	Inorganic	Carbon disulfide	75-15-0
	Carbon disulfide	Inorganic	Carbon disulfide	75-15-0
	Carbon tetrachloride	Organic	Carbon tetrachloride	56-23-5
	Carbophenothion	Organic	Trithion	786-19-6
	Carbosulfan	Organic	Carbosulfan	55285-14-8
	Carboxin	Organic	Carboxin	5234-68-4
	Carboxine	Organic	Carboxin	5234-68-4
	Carboxybenzene	Organic	Benzoic acid	65-85-0
	N-Carboxymethyl-N-nitrosourea	Organic	N-Carboxymethyl-N-nitrosourea	60391-92-6
	Catechol	Organic	Catechol	120-80-9
	Cd	Inorganic	Cadmium	7440-43-9
	CDEC	Organic	Sulfallate	95-06-7
	Celphos	Inorganic	Aluminum phosphide	20859-73-8
	Chemform	Organic	Maleic hydrazide	123-33-1
	Chloral hydrate	Organic	Chloral hydrate	302-17-0
	Chloramben	Organic	Chloramben	133-90-4
	Chlorambucil	Organic	Chlorambucil	305-03-3
	Chloramine	Inorganic	Chloramine	127-65-1
	Chlorate	Inorganic	Chlorate	14866-68-3
	p-Chloro-m-cresol	Organic	4-Chloro-m-cresol	59-50-7
	p-Chloro-o-cresol	Organic	4-Chloro-o-cresol	1570-64-5
	Chlordan	Organic	Chlordane	57-74-9
	Chlordane	Organic	Chlordane	57-74-9
	Chlordecone	Organic	Kepone	143-50-0
	1-Chloro-3,4-diaminobenzene	Organic	4-Chloro-o-phenylenediamine	95-83-0
	3-Chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone	Organic	MX	77439-76-0
	Chlordimeform	Organic	Chlordimeform	6164-98-3
	Chlorendic acid	Organic	Chlorendic acid	115-28-6

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
1-Chloro-2,3-epoxypropane	Organic	Epichlorohydrin	106-89-8
Chloride	Inorganic	Chloride	16887-00-6
Chlorimuron-ethyl	Organic	Chlorimuron-ethyl	90982-32-4
Chlorinated paraffins	Organic	Chlorinated paraffins	
Chlorinated benzenes	Organic	Chlorinated benzenes	
Chlorinated naphthalenes	Organic	Chlorinated naphthalenes	25586-43-0
Chlorinated phenols	Organic	Chlorinated phenols	
Chlorinated waxes	Organic	Chlorinated paraffins	
Chlorine	Inorganic	Chlorine	7782-50-5
Chlorine cyanide	Inorganic	Cyanogen chloride	506-77-4
Chlorine dioxide	Inorganic	Chlorine dioxide	10049-04-4
Chloro-IPC	Organic	Chlorpropham	101-21-3
Chlorite	Inorganic	Chlorite	7758-19-2
4(Chloro-2-methoxyphenoxy)acetic acid	Organic	MCPA	94-74-6
2-Chloro-5-methylphenol	Organic	6-Chloro-m-cresol	615-74-7
4-Chloro-2-methylphenol	Organic	4-Chloro-o-cresol	1570-64-5
4-Chloro-3-methylphenol	Organic	4-Chloro-m-cresol	59-50-7
6-Chloro-3-methylphenol	Organic	6-Chloro-m-cresol	615-74-7
1-Chloro-2-methylpropene	Organic	Dimethylvinylchloride	513-37-1
Chloroacetic acid	Organic	Chloroacetic acid	79-11-8
Chloroalkyl ethers	Organic	Chloroalkyl ethers	
2-Chloroallyl-diethyldithiocarbamate	Organic	Sulfallate	95-06-7
4-Chloroaniline	Organic	p-Chloroaniline	106-47-8
p-Chloroaniline	Organic	p-Chloroaniline	106-47-8
Chlorobenzene	Organic	Chlorobenzene	108-90-7
Chlorobenzilate	Organic	Ethyl-4,4'-dichlorobenzilate	510-15-6
Chlorobromomethane	Organic	Bromochloromethane	74-97-5
2-Chlorobutadiene-1,3	Organic	beta-Chloroprene	126-99-8
Chlorocamphene	Organic	Toxaphene	8001-35-2
4-Chloro-m-cresol	Organic	4-Chloro-m-cresol	59-50-7
6-Chloro-m-cresol	Organic	6-Chloro-m-cresol	615-74-7
4-Chloro-o-cresol	Organic	4-Chloro-o-cresol	1570-64-5
Chlorodibromomethane	Organic	Dibromochloromethane	124-48-1
Chloroethane	Organic	Chloroethane	75-00-3
Chloroethene	Organic	Vinyl chloride	75-01-4
Chloroethylaminobenzeneacetate	Organic	Phenesterin	600010
Chloroethylene	Organic	Vinyl chloride	75-01-4
2-Chloroethylphosphonic acid	Organic	Ethephon	16672-87-0
Chloroform	Organic	Chloroform	67-66-3
Chlorofos	Organic	Trichlorfon	52-68-6
1-Chloroisobutene	Organic	Dimethylvinylchloride	513-37-1
3-Chloroisobutylene	Organic	3-Chloro-2-methylpropene	563-47-3
Chloromethane	Organic	Chloromethane	74-87-3
Chloromethoxymethane	Organic	Chloromethyl methyl ether	107-30-2
Chloromethyl ether	Organic	Bis(chloromethyl) ether	542-88-1
Chloromethyl methyl ether	Organic	Chloromethyl methyl ether	107-30-2
3-Chloro-2-methylpropene	Organic	3-Chloro-2-methylpropene	563-47-3
2-Chloronaphthalene	Organic	2-Chloronaphthalene	91-58-7
beta-Chloronaphthalene	Organic	2-Chloronaphthalene	91-58-7
2-Chlorophenol	Organic	2-Chlorophenol	95-57-8
3-Chlorophenol	Organic	3-Chlorophenol	108-43-0
4-Chlorophenol	Organic	4-Chlorophenol	106-48-9
m-Chlorophenol	Organic	3-Chlorophenol	108-43-0
o-Chlorophenol	Organic	2-Chlorophenol	95-57-8
p-Chlorophenol	Organic	4-Chlorophenol	106-48-9
4-Chloro-o-phenylenediamine	Organic	4-Chloro-o-phenylenediamine	95-83-0
Chlorophenylmethane	Organic	Benzyl chloride	100-44-7
Chloropicrin	Organic	Chloropicrin	76-06-2
beta-Chloroprene	Organic	beta-Chloroprene	126-99-8
3-Chloropropene	Organic	3-Chloropropene	107-05-1
Chloropropylene	Organic	Epichlorohydrin	106-89-8
2-(4-((6-Chloro-2-quinoxalinyl)oxy)phenoxy)propanoic acid ethyl ester	Organic	Assure	76578-14-8
Chlorothalonil	Organic	Chlorothalonil	1897-45-6
2-Chlorotoluene	Organic	2-Chlorotoluene	95-49-8
4-Chlorotoluene	Organic	4-Chlorotoluene	106-43-4
alpha-Chlorotoluene	Organic	Benzyl chloride	100-44-7
o-Chlorotoluene	Organic	2-Chlorotoluene	95-49-8
p-Chlorotoluene	Organic	4-Chlorotoluene	106-43-4
p-Chloro-o-toluidine	Organic	p-Chloro-o-toluidine	95-69-2
Chlorozotocin	Organic	Chlorozotocin	54749-90-5
Chlorpropham	Organic	Chlorpropham	101-21-3
Chlorpyrifos	Organic	Chlorpyrifos	2921-88-2
Chlorsulfuron	Organic	Chlorsulfuron	64902-72-3
Chlorthal	Organic	2,3,5,6-Tetrachloroterephthalate	2136-79-0
Chromium (III)	Inorganic	Chromium (III)	16065-83-1
Chromium (VI)	Inorganic	Chromium (VI)	18540-29-9
Chromium, hexavalent	Inorganic	Chromium (VI)	18540-29-9
Chromium (total)	Inorganic	Chromium (total)	7440-47-3
Chromium, trivalent	Inorganic	Chromium (III)	16065-83-1
Chrysanthemumic acid	Organic	Dimethrin	70-38-2
Chrysazin	Organic	Dantron	117-10-2
Chrysene	Organic	Chrysene	218-01-9
C. I. Basic Red 9 monohydrochloride	Organic	C. I. Basic Red 9 monohydrochloride	569-61-9
C.I. disperse orange 11	Organic	1-Amino-2-methylanthraquinone	82-28-0
Cinnamyl anthranilate	Organic	Cinnamyl anthranilate	87-29-6

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
CIPC	Organic	Chlorpropham	101-21-3
Cl-	Inorganic	Chloride	16887-00-6
Cl2	Inorganic	Chlorine	7782-50-5
ClO2	Inorganic	Chlorine dioxide	10049-04-4
ClO2-	Inorganic	Chlorite	7758-19-2
ClO3-	Inorganic	Chlorate	14866-68-3
ClO4-	Inorganic	Perchlorate	14797-73-0
Clofentezine	Organic	Apollo	74115-24-5
CMME	Organic	Chloromethyl methyl ether	107-30-2
CN-	Inorganic	Cyanide	57-12-5
Co	Inorganic	Cobalt	7440-48-4
Cobalt	Inorganic	Cobalt	7440-48-4
Cobra	Organic	Lactofen	77501-63-4
Color	Inorganic	Color	
Combat	Organic	Amdro	67485-29-4
Conductivity	Inorganic	Electrical Conductivity	
Contraven	Organic	Terbufos	13071-79-9
Copper	Inorganic	Copper	7440-50-8
Copper cyanide	Inorganic	Copper cyanide	544-92-3
Corrosivity	Inorganic	Corrosivity	
Cotoron	Organic	Fluometuron	2164-17-2
Cottonex	Organic	Fluometuron	2164-17-2
Coumadin	Organic	Warfarin	81-81-2
Coumafen	Organic	Warfarin	81-81-2
Counter	Organic	Terbufos	13071-79-9
Coxistat	Organic	Nitrofurazone	59-87-0
p-Cresidine	Organic	p-Cresidine	120-71-8
m-Cresol	Organic	m-Cresol	108-39-4
o-Cresol	Organic	o-Cresol	95-48-7
p-Cresol	Organic	p-Cresol	106-44-5
Cr (III)	Inorganic	Chromium (III)	16065-83-1
Cr (VI)	Inorganic	Chromium (VI)	18540-29-9
Cr (total)	Inorganic	Chromium (total)	7440-47-3
Crisazina	Organic	Atrazine	1912-24-9
Crisuron	Organic	Diuron	330-54-1
Crotaline	Organic	Monocrotaline	315-22-0
trans-Crotonaldehyde	Organic	trans-Crotonaldehyde	4170-30-3
CS2	Inorganic	Carbon disulfide	75-15-0
Cu	Inorganic	Copper	7440-50-8
Cumene	Organic	Cumene	98-82-8
Cupferron	Organic	Cupferron	135-20-6
Cupricin	Inorganic	Copper cyanide	544-92-3
Cuprous cyanide	Inorganic	Copper cyanide	544-92-3
Cutlass	Organic	Flurprimidol	56425-91-3
Cyanazine	Organic	Cyanazine	21725-46-2
Cyanide	Inorganic	Cyanide	57-12-5
Cyanide, copper	Inorganic	Copper cyanide	544-92-3
Cyanide, potassium	Inorganic	Potassium cyanide	151-50-8
Cyanide, silver	Inorganic	Silver cyanide	506-64-9
Cyanide, sodium	Inorganic	Sodium cyanide	143-33-9
Cyanide, zinc	Inorganic	Zinc cyanide	557-21-1
Cyanoethylene	Organic	Acrylonitrile	107-13-1
Cyanogen	Organic	Cyanogen	460-19-5
Cyanogen bromide	Inorganic	Cyanogen bromide	506-68-3
Cyanogen chloride	Inorganic	Cyanogen chloride	506-77-4
Cyanomethane	Organic	Acetonitrile	75-05-8
2-Cyanopropene	Organic	Methacrylonitrile	126-98-7
Cyclohexane	Organic	Cyclohexane	110-82-7
Cyclohexanol	Organic	Cyclohexanol	108-93-0
Cyclohexanone	Organic	Cyclohexanone	108-94-1
Cyclohexene	Organic	Cyclohexene	110-83-8
Cyclohexylamine	Organic	Cyclohexylamine	108-91-8
Cyclonite	Organic	RDX (Cyclonite)	121-82-4
Cyclopentadiene	Organic	Cyclopentadiene	542-92-7
Cyclophosphamide	Organic	Cyclophosphamide	50-18-0
Cyclotetramethylene tetranitramine	Organic	HMX	2691-41-0
Cyfluthrin	Organic	Baythroid	68359-37-5
Cygon	Organic	Dimethoate	60-51-5
Cyhalothrin	Organic	Cyhalothrin	68085-85-8
Cypermethrin	Organic	Cypermethrin	52315-07-8
Cyromazine	Organic	Cyromazine	66215-27-8
Cythion	Organic	Malathion	121-75-5

D

2,4-D	Organic	2,4-D	94-75-7
Dacarbazine	Organic	Dacarbazine	890524
Daconil	Organic	Chlorothalonil	1897-45-6
Dacthal (DCPA)	Organic	Dacthal (DCPA)	1861-32-1
Dactinomycin	Organic	Actinomycin D	50-76-0
Dalapon	Organic	Dalapon	75-99-0
Daminozide	Organic	Daminozide	1596-84-5
Danitol	Organic	Danitol	39515-41-8
Dantron	Organic	Dantron	117-10-2
Dazide	Organic	Daminozide	1596-84-5
2,4-DB	Organic	2,4-Dichlorophenoxybutyric acid	94-82-6
DBCP	Organic	1,2-Dibromo-3-chloropropane	96-12-8

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
DBDPE	Organic	Decabromodiphenyl ether	1163-19-5
DBNA	Organic	N-Nitrosodi-n-butylamine	924-16-3
2,4-D butyric acid	Organic	2,4-Dichlorophenoxybutyric acid	94-82-6
1,1-DCA	Organic	1,1-Dichloroethane	75-34-3
1,2-DCA	Organic	1,2-Dichloroethane	107-06-2
DCB	Organic	3,3'-Dichlorobenzidine	91-94-1
o-DCB	Organic	1,2-Dichlorobenzene	95-50-1
p-DCB	Organic	1,4-Dichlorobenzene	106-46-7
1,1-DCE	Organic	1,1-Dichloroethylene	75-35-4
cis-1,2-DCE	Organic	cis-1,2-Dichloroethylene	156-59-2
trans-1,2-DCE	Organic	trans-1,2-Dichloroethylene	156-60-5
DCPA	Organic	Dacthal (DCPA)	1861-32-1
D&C Red No. 9	Organic	D&C Red No. 9	2092-56-0
D&C Red No. 5	Organic	Ponceau MC	3761-53-3
D-D, component of	Organic	1,2-Dichloropropane	78-87-5
D-D, component of	Organic	1,3-Dichloropropene	542-75-6
4,4'-DDD	Organic	DDD	72-54-8
DDD	Organic	DDD	72-54-8
4,4'-DDE	Organic	DDE	72-55-9
DDE	Organic	DDE	72-55-9
4,4'-DDT	Organic	DDT	50-29-3
DDT	Organic	DDT	50-29-3
DDVP	Organic	Dichlorvos	62-73-7
DEA	Organic	Diethanolamine	111-42-2
Decabromodiphenyl ether	Organic	Decabromodiphenyl ether	1163-19-5
Dechlorane	Organic	Mirex	2385-85-5
De-Fend	Organic	Dimethoate	60-51-5
DEHA	Organic	Di(2-ethylhexyl)adipate	103-23-1
DEHP	Organic	Di(2-ethylhexyl)phthalate	117-81-7
Demeton	Organic	Demeton	8065-48-3
DEN	Organic	N-Nitrosodiethylamine	55-18-5
Dermofural	Organic	Nitrofurazone	59-87-0
DES	Organic	Diethylstilbestrol	56-53-1
Devrinol	Organic	Napropamide	15299-99-7
DGRE	Organic	Diglycidyl resorcinol ether	101-90-6
Diacetone alcohol	Organic	Diacetone alcohol	123-42-2
Dialon	Organic	Diuron	330-54-1
Diamine	Inorganic	Hydrazine	302-01-2
2,4-Diaminoanisole	Organic	2,4-Diaminoanisole	615-05-4
2,4-Diaminoanisole sulfate	Organic	2,4-Diaminoanisole sulfate	39156-41-7
1,2-Diaminobenzene	Organic	o-Phenylenediamine	95-54-5
1,3-Diaminobenzene	Organic	m-Phenylenediamine	108-45-2
o-Diaminobenzene	Organic	o-Phenylenediamine	95-54-5
p-Diaminodiphenyl	Organic	Benzidine	92-87-5
4,4'-Diaminodiphenyl ether	Organic	4,4'-Diaminodiphenyl ether	101-80-4
1,2-Diaminoethane	Organic	Ethylenediamine	107-15-3
2,4-Diaminotoluene	Organic	2,4-Diaminotoluene	95-80-7
2,6-Diamino-3-phenylazopyridine	Organic	Phenazopyridine	94-78-0
o-Dianisidine	Organic	3,3'-Dimethoxybenzidine	119-90-4
Diazine blue	Organic	Direct Blue 6	2602-46-2
Diazinon	Organic	Diazinon	333-41-5
Dibam	Organic	Sodium dimethyldithiocarbamate	128-04-1
Dibenz(a,h)acridine	Organic	Dibenz(a,h)acridine	226-36-8
Dibenz(a,j)acridine	Organic	Dibenz(a,j)acridine	224-42-0
1,2;5,6-Dibenzanthracene	Organic	Dibenz(a,h)anthracene	53-70-3
Dibenz(a,h)anthracene	Organic	Dibenz(a,h)anthracene	53-70-3
Dibenzo(a,h)anthracene	Organic	Dibenz(a,h)anthracene	53-70-3
7H-Dibenzo(c,g)carbazole	Organic	7H-Dibenzo(c,g)carbazole	194-59-2
Dibenzo(a,e)pyrene	Organic	Dibenzo(a,e)pyrene	192-65-4
Dibenzo(a,h)pyrene	Organic	Dibenzo(a,h)pyrene	189-64-0
Dibenzo(a,i)pyrene	Organic	Dibenzo(a,i)pyrene	189-55-9
Dibenzo(a,l)pyrene	Organic	Dibenzo(a,l)pyrene	191-30-0
Dibenzopyrrole	Organic	Carbazole	86-74-8
Dibenzyline	Organic	Phenoxybenzamine	59-96-1
Dibrom	Organic	Naled	300-76-5
2,6-Dibromo-4-cyanophenol	Organic	Bromoxynil	1689-84-5
3,5-Dibromo-4-hydroxybenzonitrile	Organic	Bromoxynil	1689-84-5
Dibromoacetic acid	Organic	Dibromoacetic acid	631-64-1
Dibromoacetonitrile	Organic	Dibromoacetonitrile	3252-43-5
1,4-Dibromobenzene	Organic	1,4-Dibromobenzene	106-37-6
Dibromochloromethane	Organic	Dibromochloromethane	124-48-1
1,2-Dibromo-3-chloropropane	Organic	1,2-Dibromo-3-chloropropane	96-12-8
Dibromochloropropane	Organic	1,2-Dibromo-3-chloropropane	96-12-8
1,2-Dibromoethane	Organic	1,2-Dibromoethane	106-93-4
Dibutylnitrosamine	Organic	N-Nitrosodi-n-butylamine	924-16-3
Dibutyl phthalate	Organic	Dibutyl phthalate	84-74-2
Di-n-butylphthalate	Organic	Dibutyl phthalate	84-74-2
Dicamba	Organic	Dicamba	1918-00-9
1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane	Organic	DDD	72-54-8
2,4-Dichloro-1-(4-nitrophenoxy)benzene	Organic	Nitrofen	1836-75-5
Dichloroacetic acid	Organic	Dichloroacetic acid	79-43-6
Dichloroacetonitrile	Organic	Dichloroacetonitrile	3018-12-0
1,2-Dichlorobenzene	Organic	1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	Organic	1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	Organic	1,4-Dichlorobenzene	106-46-7

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
m-Dichlorobenzene	Organic	1,3-Dichlorobenzene	541-73-1
o-Dichlorobenzene	Organic	1,2-Dichlorobenzene	95-50-1
p-Dichlorobenzene	Organic	1,4-Dichlorobenzene	106-46-7
Dichlorobenzenes	Organic	Dichlorobenzenes	25321-22-6
3,3'-Dichlorobenzidine	Organic	3,3'-Dichlorobenzidine	91-94-1
Dichlorobromomethane	Organic	Bromodichloromethane	75-27-4
2,2'-Dichlorodiethyl ether	Organic	Bis(2-chloroethyl) ether	111-44-4
Dichlorodiethyl formal	Organic	Bis(2-chloroethoxy) methane	111-91-1
Dichlorodifluoromethane	Organic	Dichlorodifluoromethane	75-71-8
Dichlorodimethyl ether	Organic	Bis(chloromethyl) ether	542-88-1
Dichlorodimethylvinylphosphate	Organic	Dichlorvos	62-73-7
Dichlorodiphenyldichloroethane	Organic	DDD	72-54-8
Dichlorodiphenyldichloroethylene	Organic	DDE	72-55-9
Dichlorodiphenyltrichloroethane	Organic	DDT	50-29-3
1,1-Dichloroethane	Organic	1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	Organic	1,2-Dichloroethane	107-06-2
1,1-Dichloroethene	Organic	1,1-Dichloroethylene	75-35-4
cis-1,2-Dichloroethene	Organic	cis-1,2-Dichloroethylene	156-59-2
trans-1,2-Dichloroethene	Organic	trans-1,2-Dichloroethylene	156-60-5
Dichloroethenes	Organic	Dichloroethylenes	
1,1-Dichloroethylene	Organic	1,1-Dichloroethylene	75-35-4
cis-1,2-Dichloroethylene	Organic	cis-1,2-Dichloroethylene	156-59-2
Dichloroethylenes	Organic	Dichloroethylenes	
trans-1,2-Dichloroethylene	Organic	trans-1,2-Dichloroethylene	156-60-5
symmetrical-Dichloroethyl ether	Organic	Bis(2-chloroethyl) ether	111-44-4
Dichloroethyl formal	Organic	Bis(2-chloroethoxy) methane	111-91-1
Dichloromethane	Organic	Dichloromethane	75-09-2
2,3-Dichlorophenol	Organic	2,3-Dichlorophenol	576-24-9
2,4-Dichlorophenol	Organic	2,4-Dichlorophenol	120-83-2
2,5-Dichlorophenol	Organic	2,5-Dichlorophenol	583-78-8
2,6-Dichlorophenol	Organic	2,6-Dichlorophenol	87-65-0
3,4-Dichlorophenol	Organic	3,4-Dichlorophenol	95-77-2
2,4-Dichlorophenoxyacetic acid	Organic	2,4-D	94-75-7
2,4-Dichlorophenoxybutyric acid	Organic	2,4-Dichlorophenoxybutyric acid	94-82-6
1,2-Dichloropropane	Organic	1,2-Dichloropropane	78-87-5
Dichloropropanes	Organic	Dichloropropanes	26638-19-7
2,3-Dichloropropanol	Organic	2,3-Dichloropropanol	616-23-9
1,3-Dichloropropene	Organic	1,3-Dichloropropene	542-75-6
Dichloropropenes	Organic	Dichloropropenes	
2,2-Dichloropropionic acid	Organic	Dalapon	75-99-0
1,3-Dichloropropylene	Organic	1,3-Dichloropropene	542-75-6
Dichlorvos	Organic	Dichlorvos	62-73-7
Dicrotophos	Organic	Dicrotophos	141-66-2
Dieldrin	Organic	Dieldrin	60-57-1
Diesel Oil	Organic	Diesel Oil	68476-34-6
Diethanolamine	Organic	Diethanolamine	111-42-2
Diethanolnitrosamine	Organic	N-Nitrosodiethanolamine	1116-54-7
Diethion	Organic	Ethion	563-12-2
Diethylamine	Organic	Diethylamine	109-89-7
Diethyldithiocarbamate, sodium	Organic	Sodium diethyldithiocarbamate	148-18-5
Diethylene ether	Organic	1,4-Dioxane	123-91-1
Di(2-ethylhexyl)adipate	Organic	Di(2-ethylhexyl)adipate	103-23-1
Diethylhexyl adipate	Organic	Di(2-ethylhexyl)adipate	103-23-1
Di(2-ethylhexyl)phthalate	Organic	Di(2-ethylhexyl)phthalate	117-81-7
Diethyl ketone	Organic	Diethyl ketone	96-22-0
Diethylnitrosamine	Organic	N-Nitrosodiethylamine	55-18-5
Diethyl phthalate	Organic	Diethyl phthalate	84-66-2
Diethylstilbestrol	Organic	Diethylstilbestrol	56-53-1
Diethyl sulfate	Organic	Diethyl sulfate	64-67-5
Difenzoquat	Organic	Difenzoquat	43222-48-6
Diflubenzuron	Organic	Diflubenzuron	35367-38-5
Difluorodichloromethane	Organic	Dichlorodifluoromethane	75-71-8
Difolatan	Organic	Captafol	190444
Difonate	Organic	Fonofos	944-22-9
Diglycidyl resorcinol ether	Organic	Diglycidyl resorcinol ether	101-90-6
1,2-Dihydroacenaphthylene	Organic	Acenaphthene	83-32-9
Dihydrosafrole	Organic	Dihydrosafrole	94-58-6
1,8-Dihydroxyanthraquinone	Organic	Dantron	117-10-2
Diisobutyl ketone	Organic	Diisobutyl ketone	108-83-8
Diisocyanatotoluene	Organic	Toluene diisocyanate	26471-62-5
Diisopropylamine	Organic	Diisopropylamine	108-18-9
Di-isopropyl ether	Organic	Isopropyl ether	108-20-3
Diisopropyl methyl phosphonate	Organic	Diisopropyl methyl phosphonate	1445-75-6
1,4:5,8-Dimethanonaphthalene	Organic	Aldrin	309-00-2
Dimethipin	Organic	Dimethipin	55290-64-7
Dimethoate	Organic	Dimethoate	60-51-5
3,3'-Dimethoxybenzidine	Organic	3,3'-Dimethoxybenzidine	119-90-4
Dimethrin	Organic	Dimethrin	70-38-2
Dimethylamine	Organic	Dimethylamine	124-40-3
4-Dimethylaminoazobenzene	Organic	4-Dimethylaminoazobenzene	60-11-7
p-Dimethylaminoazobenzene	Organic	4-Dimethylaminoazobenzene	60-11-7
4,4-Dimethylaminobenzo-phenonimide	Organic	Auramine	492-80-8
trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	Organic	trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	55738-54-0
2,4-Dimethylaniline	Organic	2,4-Xylidine	1300-73-8

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
2,6-Dimethylaniline	Organic	2,6-Xylidine	87-62-7
N,N-Dimethylaniline	Organic	N,N-Dimethylaniline	121-69-7
7,12-Dimethylbenz(a)anthracene	Organic	7,12-Dimethylbenz(a)anthracene	57-97-6
3,3'-Dimethylbenzidine	Organic	3,3'-Dimethylbenzidine	119-93-7
2,4-Dimethylbenzylester	Organic	Dimethrin	70-38-2
Dimethylcarbamoyl chloride	Organic	Dimethylcarbamoyl chloride	79-44-7
Dimethylcarbamyl chloride	Organic	Dimethylcarbamoyl chloride	79-44-7
N,N-Dimethylformamide	Organic	N,N-Dimethylformamide	68-12-2
2,6-Dimethyl-4-heptanone	Organic	Diisobutyl ketone	108-83-8
1,1-Dimethylhydrazine	Organic	1,1-Dimethylhydrazine	57-14-7
1,2-Dimethylhydrazine	Organic	1,2-Dimethylhydrazine	540-73-8
symmetrical-Dimethylhydrazine	Organic	1,2-Dimethylhydrazine	540-73-8
unsymmetrical-Dimethylhydrazine	Organic	1,1-Dimethylhydrazine	57-14-7
Dimethylketone	Organic	Acetone	67-64-1
Dimethyl methylphosphonate	Organic	Dimethyl methylphosphonate	756-79-6
Dimethylnitrosamine	Organic	N-Nitrosodimethylamine	62-75-9
2,4-Dimethylphenol	Organic	2,4-Dimethylphenol	105-67-9
2,6-Dimethylphenol	Organic	2,6-Dimethylphenol	576-26-1
3,4-Dimethylphenol	Organic	3,4-Dimethylphenol	95-65-8
Dimethyl phthalate	Organic	Dimethyl phthalate	131-11-3
Dimethyl p-phthalate	Organic	Dimethyl terephthalate	120-61-6
Dimethyl sulfate	Organic	Dimethyl sulfate	77-78-1
Dimethyl terephthalate	Organic	Dimethyl terephthalate	120-61-6
Dimethylvinylchloride	Organic	Dimethylvinylchloride	513-37-1
DIMP	Organic	Diisopropyl methyl phosphonate	1445-75-6
4,6-Dinitro-2-methylphenol	Organic	4,6-Dinitro-o-cresol	534-52-1
1,3-Dinitrobenzene	Organic	1,3-Dinitrobenzene	99-65-0
m-Dinitrobenzene	Organic	1,3-Dinitrobenzene	99-65-0
4,6-Dinitro-o-cresol	Organic	4,6-Dinitro-o-cresol	534-52-1
4,6-Dinitro-o-cyclohexyl phenol	Organic	4,6-Dinitro-o-cyclohexyl phenol	131-89-5
2,4-Dinitrophenol	Organic	2,4-Dinitrophenol	51-28-5
Dinitrophenols	Organic	Dinitrophenols	25550-58-7
1,6-Dinitropyrene	Organic	1,6-Dinitropyrene	42397-64-8
1,8-Dinitropyrene	Organic	1,8-Dinitropyrene	42397-65-9
2,4-Dinitrotoluene	Organic	2,4-Dinitrotoluene	121-14-2
2,6-Dinitrotoluene	Organic	2,6-Dinitrotoluene	606-20-2
Dinitrotoluenes	Organic	Dinitrotoluenes	25321-14-6
Dinoseb	Organic	Dinoseb	88-85-7
Di(n-octyl) phthalate	Organic	Di(n-octyl) phthalate	117-84-0
1,4-Dioxane	Organic	1,4-Dioxane	123-91-1
p-Dioxane	Organic	1,4-Dioxane	123-91-1
Dioxin	Organic	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
Dioxin-like compounds	Organic	2,3,3',4,4',5,5'-Heptachlorobiphenyl	39635-31-9
Dioxin-like compounds	Organic	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9
Dioxin-like compounds	Organic	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4
Dioxin-like compounds	Organic	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7
Dioxin-like compounds	Organic	2,3,3',4,4',5'-Hexachlorobiphenyl	69782-90-7
Dioxin-like compounds	Organic	2,3,3',4,4',5-Hexachlorobiphenyl	38380-08-4
Dioxin-like compounds	Organic	2,3',4,4',5,5'-Hexachlorobiphenyl	52663-72-6
Dioxin-like compounds	Organic	3,3',4,4',5,5'-Hexachlorobiphenyl	32774-16-6
Dioxin-like compounds	Organic	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6
Dioxin-like compounds	Organic	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7
Dioxin-like compounds	Organic	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3
Dioxin-like compounds	Organic	1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9
Dioxin-like compounds	Organic	1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9
Dioxin-like compounds	Organic	1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9
Dioxin-like compounds	Organic	2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5
Dioxin-like compounds	Organic	Octachlorodibenzo-p-dioxin	3268-87-9
Dioxin-like compounds	Organic	Octachlorodibenzofuran	39001-02-0
Dioxin-like compounds	Organic	2,3,3',4,4'-Pentachlorobiphenyl	332598-14-4
Dioxin-like compounds	Organic	2,3,4,4',5-Pentachlorobiphenyl	74472-37-0
Dioxin-like compounds	Organic	2',3,4,4',5-Pentachlorobiphenyl	65510-44-3
Dioxin-like compounds	Organic	2,3',4,4',5-Pentachlorobiphenyl	31508-00-6
Dioxin-like compounds	Organic	3,3',4,4',5-Pentachlorobiphenyl	57465-28-8
Dioxin-like compounds	Organic	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4
Dioxin-like compounds	Organic	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6
Dioxin-like compounds	Organic	2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4
Dioxin-like compounds	Organic	3,3',4,4'-Tetrachlorobiphenyl	32598-13-3
Dioxin-like compounds	Organic	3,4,4',5-Tetrachlorobiphenyl	70362-50-4
Dioxin-like compounds	Organic	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9
DIPE	Organic	Isopropyl ether	108-20-3
Diphenamid(e)	Organic	Diphenamid(e)	957-51-7
Diphenamide	Organic	Diphenamid(e)	957-51-7
Diphenyl	Organic	1,1-Biphenyl	92-52-4
Diphenylamine	Organic	Diphenylamine	122-39-4
Diphenyldiimide	Organic	Azobenzene	103-33-3
Diphenyleneimine	Organic	Carbazole	86-74-8
Diphenyl ether	Organic	Phenyl ether	101-84-8
1,2-Diphenylhydrazine	Organic	1,2-Diphenylhydrazine	122-66-7
Diphenylnitrosamine	Organic	N-Nitrosodiphenylamine	86-30-6
		p-Nitrosodiphenylamine	156-10-5
Dipropylnitrosamine	Organic	N-Nitrosodipropylamine	621-64-7
Dipterex	Organic	Trichlorfon	52-68-6
Diquat	Organic	Diquat	85-00-7
Diram	Organic	Sodium dimethyldithiocarbamate	128-04-1

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Direct Black 38	Organic	Direct Black 38	1937-37-7
Direct Blue 6	Organic	Direct Blue 6	2602-46-2
Direct Brown 95	Organic	Direct Brown 95	16071-86-6
Direct Brown BR	Organic	m-Phenylenediamine	108-45-2
Direct Brown GG	Organic	m-Phenylenediamine	108-45-2
Diridone	Organic	Phenazopyridine	94-78-0
Disodium cyanodithioamideocarbonate	Organic	Disodium cyanodithioimidocarbonate	138-93-2
Disodium cyanodithiocarbamate	Organic	Disodium cyanodithioimidocarbonate	138-93-2
Disodium cyanodithioimidocarbonate	Organic	Disodium cyanodithioimidocarbonate	138-93-2
Disperse Blue 1	Organic	Disperse Blue 1	2475-45-8
Dissolved Oxygen	Inorganic	Oxygen, dissolved	7782-44-7
Disulfoton	Organic	Disulfoton	298-04-4
Disyston	Organic	Disulfoton	298-04-4
Dithane M-22	Organic	Maneb	12427-38-2
Dithane Z-78	Organic	Zineb	12122-67-7
1,4-Dithiane	Organic	1,4-Dithiane	505-29-3
Dithiocarb	Organic	Sodium diethyldithiocarbamate	148-18-5
Diuron	Organic	Diuron	330-54-1
Divinyl	Organic	1,3-Butadiene	106-99-0
DMA	Organic	Dimethylamine	124-40-3
DMBA	Organic	7,12-Dimethylbenz(a)anthracene	57-97-6
DMF	Organic	N,N-Dimethylformamide	68-12-2
DMNA	Organic	N-Nitrosodimethylamine	62-75-9
2,4-DMP	Organic	2,4-Dimethylphenol	105-67-9
DMT	Organic	Dimethyl terephthalate	120-61-6
DNBP	Organic	Dinoseb	88-85-7
DNOHP	Organic	4,6-Dinitro-o-cyclohexyl phenol	131-89-5
DO	Inorganic	Oxygen, dissolved	7782-44-7
Dodecylguanidine acetate	Organic	Dodine	195681
Dodine	Organic	Dodine	195681
Dowpon	Organic	Dalapon	75-99-0
DPNA or NDPA	Organic	N-Nitrosodipropylamine	621-64-7
DPX 6376	Organic	Ally	74223-64-6
DPX-F5384	Organic	Londax	83055-99-6
DPX-H6573	Organic	NuStar	85509-19-9
DPX-M6316	Organic	Harmony	79277-27-3
DPX-Y5893	Organic	Savey	78587-05-0
Dual	Organic	Metolachlor	51218-45-2
Dursban	Organic	Chlorpyrifos	2921-88-2
Dyfonate	Organic	Fonofos	944-22-9
Dyphonate	Organic	Fonofos	944-22-9

E

EAK	Organic	Ethyl n-amyl ketone	106-68-3
EC	Inorganic	Electrical Conductivity	
EDB	Organic	1,2-Dibromoethane	106-93-4
EGBE	Organic	Ethylene glycol monobutyl ether	111-76-2
EGEE	Organic	2-Ethoxyethanol	110-80-5
EGEEA	Organic	2-Ethoxyethyl acetate	111-15-9
EGME	Organic	2-Methoxyethanol	109-86-4
EGMEA	Organic	2-Methoxyethyl acetate	110-49-6
EL-107	Organic	Isoxaben	82558-50-7
Electrical Conductivity	Inorganic	Electrical Conductivity	
Endosulfan	Organic	Endosulfan	115-29-7
Endosulfan I (alpha)	Organic	Endosulfan	115-29-7
Endosulfan II (beta)	Organic	Endosulfan	115-29-7
Endosulfan sulfate	Organic	Endosulfan sulfate	1031-07-8
Endothal	Organic	Endothal	145-73-3
Endothall	Organic	Endothal	145-73-3
Endoxan monohydrate	Organic	Cyclophosphamide	50-18-0
Endrex	Organic	Endrin	72-20-8
Endrin	Organic	Endrin	72-20-8
Endrin aldehyde	Organic	Endrin aldehyde	7421-93-4
ENU	Organic	N-Nitroso-N-ethylurea	759-73-9
EPEG	Organic	Ethylphthalyl ethylglycolate	84-72-0
Epic 500	Organic	Furmecyclox	60568-05-0
Epichlorohydrin	Organic	Epichlorohydrin	106-89-8
EPN	Organic	EPN	2104-64-5
Epoxyethane	Organic	Ethylene oxide (ETO)	75-21-8
1,2-Epoxyethylbenzene	Organic	Styrene oxide	96-09-3
Eptam	Organic	S-Ethyl dipropylthiocarbamate	759-94-4
EPTC	Organic	S-Ethyl dipropylthiocarbamate	759-94-4
Estradiol 17B	Organic	Estradiol 17B	50-28-2
Ethanal	Organic	Acetaldehyde	75-07-0
Ethanamide	Organic	Acetamide	60-35-5
Ethane	Organic	Ethane	74-84-0
Ethanedinitrile	Organic	Cyanogen	460-19-5
1,2-Ethane diol	Organic	Ethylene glycol	107-21-1
Ethanethiol	Organic	Ethyl mercaptan	75-08-1
Ethanol	Organic	Ethanol	64-17-5
Ethanolamine	Organic	Ethanolamine	141-43-5
Ethephon	Organic	Ethephon	16672-87-0
Ethers, chloroalkyl-	Organic	Chloroalkyl ethers	
Ethers, halo-	Organic	Haloethers	
Ethion	Organic	Ethion	563-12-2
2-Ethoxyethanol	Organic	2-Ethoxyethanol	110-80-5

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
2-Ethoxyethanol acetate	Organic	2-Ethoxyethyl acetate	111-15-9
2-Ethoxyethyl acetate	Organic	2-Ethoxyethyl acetate	111-15-9
Ethyl acetate	Organic	Ethyl acetate	141-78-6
Ethyl acetone	Organic	Methyl n-propyl ketone	107-87-9
Ethyl acrylate	Organic	Ethyl acrylate	140-88-5
Ethyl alcohol	Organic	Ethanol	64-17-5
Ethylamine	Organic	Ethylamine	75-04-7
Ethyl n-amyl ketone	Organic	Ethyl n-amyl ketone	106-68-3
Ethylbenzene	Organic	Ethylbenzene	100-41-4
Ethyl bromide	Organic	Ethyl bromide	74-96-4
Ethyl carbamate	Organic	Urethane	51-79-6
Ethyl carbethoxymethyl phthalate	Organic	Ethylphthalyl ethylglycolate	84-72-0
Ethyl chloride	Organic	Chloroethane	75-00-3
Ethyl-4,4'-dichlorobenzilate	Organic	Ethyl-4,4'-dichlorobenzilate	510-15-6
Ethyl dipropylthiocarbamate	Organic	S-Ethyl dipropylthiocarbamate	759-94-4
S-Ethyl dipropylthiocarbamate	Organic	S-Ethyl dipropylthiocarbamate	759-94-4
Ethylene	Organic	Ethylene	74-85-1
Ethylenediamine	Organic	Ethylenediamine	107-15-3
Ethylene dibromide	Organic	1,2-Dibromoethane	106-93-4
Ethylene dichloride	Organic	1,2-Dichloroethane	107-06-2
Ethylene glycol	Organic	Ethylene glycol	107-21-1
Ethylene glycol butyl ether	Organic	Ethylene glycol monobutyl ether	111-76-2
Ethylene glycol monobutyl ether	Organic	Ethylene glycol monobutyl ether	111-76-2
Ethylene glycol monoethyl ether	Organic	2-Ethoxyethanol	110-80-5
Ethylene glycol monoethyl ether acetate	Organic	2-Ethoxyethyl acetate	111-15-9
Ethylene glycol monomethyl ether	Organic	2-Methoxyethanol	109-86-4
Ethylene glycol monomethyl ether acetate	Organic	2-Methoxyethyl acetate	110-49-6
Ethyleneimine	Organic	Ethyleneimine	151-56-4
Ethylene oxide (ETO)	Organic	Ethylene oxide (ETO)	75-21-8
Ethylenes, dichloro-	Organic	Dichloroethylenes	
Ethylene thiourea (ETU)	Organic	Ethylene thiourea (ETU)	96-45-7
Ethyl ether	Organic	Ethyl ether	60-29-7
Ethyl formate	Organic	Ethyl formate	109-94-4
Ethyl mercaptan	Organic	Ethyl mercaptan	75-08-1
Ethyl nitrile	Organic	Acetonitrile	75-05-8
Ethyl p-nitrophenyl phenylphosphorothioate	Organic	EPN	2104-64-5
Ethylnitrosourea	Organic	N-Nitroso-N-ethylurea	759-73-9
Ethyl parathion	Organic	Parathion	56-38-2
Ethylphthalyl ethylglycolate	Organic	Ethylphthalyl ethylglycolate	84-72-0
Ethylthiodemeton	Organic	Disulfoton	298-04-4
Ethyne	Organic	Acetylene	74-86-2
ETO	Organic	Ethylene oxide (ETO)	75-21-8
ETU	Organic	Ethylene thiourea (ETU)	96-45-7
Express	Organic	Express	101200-48-0

F

F-	Inorganic	Fluoride	16984-48-8
FD&C Red No. 1	Organic	Ponceau 3R	606554
Fe	Inorganic	Iron	7439-89-6
Femogen	Organic	Estradiol 17B	50-28-2
Fenamiphos	Organic	Fenamiphos	22224-92-6
Fenpropanate	Organic	Danitol	39515-41-8
Fenpropathrin	Organic	Danitol	39515-41-8
Fenvalerate	Organic	Pydrin	51630-58-1
Ferbam	Organic	Ferbam	14484-64-1
Fermate	Organic	Ferbam	14484-64-1
Fluometuron	Organic	Fluometuron	2164-17-2
Fluoranthene	Organic	Fluoranthene	206-44-0
Fluorene	Organic	Fluorene	86-73-7
2-Fluorenylacetamide	Organic	2-Acetylaminofluorene	53-96-3
Fluoride	Inorganic	Fluoride	16984-48-8
Fluorine, soluble	Inorganic	Fluoride	16984-48-8
Fluorotrichloromethane	Organic	Trichlorofluoromethane	75-69-4
Fluridone	Organic	Fluridone	59756-60-4
Flurprimidol	Organic	Flurprimidol	56425-91-3
Flutolanil	Organic	Flutolanil	66332-96-5
Fluvalinate	Organic	Fluvalinate	69409-94-5
FNT	Organic	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	3570-75-0
Foaming agents (MBAS)	Organic	Foaming agents (MBAS)	
Folex 6EC	Organic	Merphos	150-50-5
Folpan	Organic	Folpet	133-07-3
Folpet	Organic	Folpet	133-07-3
Fomesafen	Organic	Fomesafen	72178-02-0
Fonofos	Organic	Fonofos	944-22-9
Formaldehyde	Organic	Formaldehyde	50-00-0
Formic acid	Organic	Formic acid	64-18-6
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	Organic	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	3570-75-0
Fosetyl-al	Organic	Fosetyl-al	39148-24-8
Fosfamid	Organic	Dimethoate	60-51-5
Freon 10	Organic	Carbon tetrachloride	56-23-5
Freon 11	Organic	Trichlorofluoromethane	75-69-4
Freon 12	Organic	Dichlorodifluoromethane	75-71-8
Freon 20	Organic	Chloroform	67-66-3
Freon 113	Organic	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Freon 150	Organic	1,2-Dichloroethane	107-06-2
Fuel oil #1	Organic	Kerosene	8008-20-6

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
	Fuel oil #2	Organic	Diesel Oil	68476-34-6
	Furadan	Organic	Carbofuran	1563-66-2
	Furaltadon	Organic	5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone	139-91-3
	Furaltadone	Organic	5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone	139-91-3
	Furan	Organic	Furan	110-00-9
	Furathiazole	Organic	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8
	Furfural	Organic	Furfural	98-01-1
	Furfuran	Organic	Furan	110-00-9
	Furidiazine	Organic	2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	712-68-5
	Furium	Organic	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8
	Furmecyclox	Organic	Furmecyclox	60568-05-0
	Furmetamide	Organic	Furmecyclox	60568-05-0
	Furmethanol	Organic	5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone	139-91-3
	Furylamide	Organic	AF-2	3688-53-7
	2-(2-Furyl)-3-(5-nitro-2-furyl)acrylamide	Organic	AF-2	3688-53-7
G	Gasoline	Organic	Gasoline	8006-61-9
	Genoxal	Organic	Cyclophosphamide	50-18-0
	Gesafram 50	Organic	Prometon	1610-18-0
	Glean	Organic	Chlorsulfuron	64902-72-3
	Glob-P-2	Organic	A-alpha-C	26148-68-5
	Glucopyranose	Organic	Chlorozotocin	54749-90-5
	Glufosinate-ammonium	Organic	Glufosinate-ammonium	77182-82-2
	Glu-P-1	Organic	Glu-P-1	67730-11-4
	Glu-P-2	Organic	Glu-P-2	67730-10-3
	Glycidaldehyde	Organic	Glycidaldehyde	765-34-4
	Glycidol	Organic	Glycidol	556-52-5
	Glyphosate	Organic	Glyphosate	1071-83-6
	Glyphosate isopropylamine salt	Organic	Glyphosate	1071-83-6
	Goal	Organic	Oxyfluorfen	42874-03-3
	Graslan	Organic	Tebuthiuron	34014-18-1
	Grease	Organic	Oil and Grease	
	Griseofluvin	Organic	Griseofluvin	126-07-8
	Gross Alpha radioactivity	Inorganic	Radioactivity, Gross Alpha	
	Gross Beta radioactivity	Inorganic	Radioactivity, Gross Beta	
	Guthion	Organic	Azinphos-methyl	86-50-0
	Gyromitrin	Organic	Gyromitrin	16568-02-8
H	3H	Inorganic	Tritium	10028-17-8
	Haloacetic acids (HAA)	Organic	Bromoacetic acid	79-08-3
			Chloroacetic acid	79-11-8
			Dibromoacetic acid	631-64-1
			Dichloroacetic acid	79-43-6
			Trichloroacetic acid	76-03-9
	Haloethers	Organic	Haloethers	
	Halomethanes	Organic	Halomethanes	
	Halothane	Organic	Halothane	151-67-7
	Haloxyfop-methyl	Organic	Haloxyfop-methyl	69806-40-2
	Harmony	Organic	Harmony	79277-27-3
	Harvade	Organic	Dimethipin	55290-64-7
	HCB	Organic	Hexachlorobenzene	118-74-1
	HCBD	Organic	Hexachlorobutadiene	87-68-3
	HC Blue 1	Organic	HC Blue 1	2784-94-3
	HCCPD	Organic	Hexachlorocyclopentadiene	77-47-4
	alpha-HCH	Organic	alpha-BHC	319-84-6
	beta-HCH	Organic	beta-BHC	319-85-7
	delta-HCH	Organic	delta-BHC	319-86-8
	gamma-HCH	Organic	gamma-BHC (Lindane)	
	technical-HCH	Organic	technical-BHC	
	HCN	Inorganic	Cyanide	57-12-5
	H+ concentration, negative log of	Inorganic	pH	
	Heptachlor	Organic	Heptachlor	76-44-8
	Heptachlor epoxide	Organic	Heptachlor epoxide	1024-57-3
	2,3,3',4,4',5,5'-Heptachlorobiphenyl	Organic	2,3,3',4,4',5,5'-Heptachlorobiphenyl	39635-31-9
	1,2,3,4,6,7,8-Heptachlorodibenzodioxin	Organic	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9
	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	Organic	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9
	1,2,3,4,6,7,8-Heptachlorodibenzofuran	Organic	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4
	1,2,3,4,7,8,9-Heptachlorodibenzofuran	Organic	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7
	Heptane	Organic	Heptane	142-82-5
	2-Heptanone	Organic	Methyl n-amyl ketone	110-43-0
	HEX	Organic	Hexachlorocyclopentadiene	77-47-4
	Hexabromobenzene	Organic	Hexabromobenzene	87-82-1
	2,2',4,4',5,5'-Hexabromodiphenyl ether	Organic	2,2',4,4',5,5'-Hexabromodiphenyl ether	68631-49-2
	Hexachlorobenzene	Organic	Hexachlorobenzene	118-74-1
	2,3,3',4,4',5'-Hexachlorobiphenyl	Organic	2,3,3',4,4',5'-Hexachlorobiphenyl	69782-90-7
	2,3,3',4,4',5-Hexachlorobiphenyl	Organic	2,3,3',4,4',5-Hexachlorobiphenyl	38380-08-4
	2,3',4,4',5,5'-Hexachlorobiphenyl	Organic	2,3',4,4',5,5'-Hexachlorobiphenyl	52663-72-6
	3,3',4,4',5,5'-Hexachlorobiphenyl	Organic	3,3',4,4',5,5'-Hexachlorobiphenyl	32774-16-6
	Hexachlorobutadiene	Organic	Hexachlorobutadiene	87-68-3
	alpha-Hexachlorocyclohexane	Organic	alpha-BHC	319-84-6
	beta-Hexachlorocyclohexane	Organic	beta-BHC	319-85-7
	delta-Hexachlorocyclohexane	Organic	delta-BHC	319-86-8
	gamma-Hexachlorocyclohexane	Organic	gamma-BHC (Lindane)	58-89-9
	technical-Hexachlorocyclohexane	Organic	technical-BHC	608-73-1
	Hexachlorocyclopentadiene	Organic	Hexachlorocyclopentadiene	77-47-4

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
1,2,3,4,7,8-Hexachlorodibenzodioxin	Organic	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6
1,2,3,6,7,8-Hexachlorodibenzodioxin	Organic	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7
1,2,3,7,8,9-Hexachlorodibenzodioxin	Organic	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3
Hexachlorodibenzo-p-dioxin	Organic	Hexachlorodibenzo-p-dioxin	19408-74-3
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	Organic	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	Organic	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	Organic	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3
1,2,3,4,7,8-Hexachlorodibenzofuran	Organic	1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9
1,2,3,6,7,8-Hexachlorodibenzofuran	Organic	1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9
1,2,3,7,8,9-Hexachlorodibenzofuran	Organic	1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9
2,3,4,6,7,8-Hexachlorodibenzofuran	Organic	2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5
2,3,4,6,7,8-Hexachlorodibenzofuran	Organic	2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5
2,3,4,7,8,9-Hexachlorodibenzofuran	Organic	1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9
Hexachloroethane	Organic	Hexachloroethane	67-72-1
Hexachlorophene	Organic	Hexachlorophene	70-30-4
Hexadrin	Organic	Endrin	72-20-8
Hexahydro-1,3,5-trinitro-1,3,5-triazine	Organic	RDX (Cyclonite)	121-82-4
Hexamethylphosphoramide	Organic	Hexamethylphosphoramide	680-31-9
n-Hexane	Organic	n-Hexane	110-54-3
2-Hexanone	Organic	Methyl n-butyl ketone	591-78-6
Hexazinone	Organic	Hexazinone	51235-04-2
Hexogen	Organic	RDX (Cyclonite)	121-82-4
1,6-Hexolactam	Organic	Caprolactam	105-60-2
HgCl2	Inorganic	Mercuric chloride	7487-94-7
Hg (inorganic)	Inorganic	Mercury (inorganic)	7439-97-6
Hg (total)	Inorganic	Mercury (total, including organic compounds)	7439-97-6
HHDN	Organic	Aldrin	309-00-2
HMX	Organic	HMX	2691-41-0
H2NNH2	Inorganic	Hydrazine	302-01-2
Hoe 39866	Organic	Glufosinate-ammonium	77182-82-2
1,2,3,4,6,7,8-HpCDD	Organic	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9
1,2,3,4,6,7,8-HpCDF	Organic	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4
1,2,3,4,7,8,9-HpCDF	Organic	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7
H2S	Inorganic	Hydrogen sulfide	2147416
H2Se	Inorganic	Hydrogen selenide	2147447
1,2,3,4,7,8-HxCDD	Organic	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6
1,2,3,6,7,8-HxCDD	Organic	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7
1,2,3,7,8,9-HxCDD	Organic	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3
HxCDD	Organic	Hexachlorodibenzo-p-dioxin	19408-74-3
1,2,3,4,7,8-HxCDF	Organic	1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9
1,2,3,6,7,8-HxCDF	Organic	1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9
1,2,3,7,8,9-HxCDF	Organic	1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9
2,3,4,6,7,8-HxCDF	Organic	2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5
Hydramethylnon	Organic	Amdro	67485-29-4
Hydrazine	Inorganic	Hydrazine	302-01-2
Hydrazine sulfate	Inorganic	Hydrazine sulfate	10034-93-2
Hydrazobenzene	Organic	1,2-Diphenylhydrazine	122-66-7
Hydrogen cyanide	Inorganic	Cyanide	57-12-5
Hydrogen phosphide	Inorganic	Phosphine	7803-51-2
Hydrogen selenide	Inorganic	Hydrogen selenide	2147447
Hydrogen sulfide	Inorganic	Hydrogen sulfide	2147416
3-Hydroxybutyric acid	Organic	beta-Butyrolactone	96-48-0
4-Hydroxy-4-methyl-2-pentanone	Organic	Diacetone alcohol	123-42-2
Hyvar X or XL	Organic	Bromacil	314-40-9
I-	Inorganic	Iodide	20461-54-5
IBN	Organic	Isobutyl nitrite	542-56-3
Imazalil	Organic	Imazalil	35554-44-0
Imazaquin	Organic	Imazaquin	81335-37-7
Imidamide	Organic	Amitraz	33089-61-1
IMPA	Organic	Isopropyl methyl phosphonic acid	1832-54-8
Indene	Organic	Indene	95-13-6
Indeno(1,2,3-c,d)pyrene	Organic	Indeno(1,2,3-c,d)pyrene	193-39-5
IN L5300	Organic	Express	101200-48-0
Iodide	Inorganic	Iodide	20461-54-5
Iodoform	Organic	Iodoform	75-47-8
Iprodione	Organic	Iprodione	36734-19-7
IQ	Organic	IQ	76180-96-6
Iron	Inorganic	Iron	7439-89-6
Isoamyl acetate	Organic	Isoamyl acetate	123-92-2
Isoamyl alcohol	Organic	Isoamyl alcohol	123-51-3
Isobutanol	Organic	Isobutyl alcohol	78-83-1
Isobutyl acetate	Organic	Isobutyl acetate	110-19-0
Isobutyl alcohol	Organic	Isobutyl alcohol	78-83-1
Isobutyl carbinol	Organic	Isoamyl alcohol	123-51-3
Isobutyl nitrite	Organic	Isobutyl nitrite	542-56-3
Isophorone	Organic	Isophorone	78-59-1
Isopropalin	Organic	Isopropalin	33820-53-0
Isopropanol	Organic	Isopropanol	67-63-0
Isopropyl acetate	Organic	Isopropyl acetate	108-21-4
Isopropyl alcohol	Organic	Isopropanol	67-63-0
Isopropylamine	Organic	Isopropylamine	75-31-0
Isopropylbenzene	Organic	Cumene	98-82-8
Isopropyl-N-(3-chlorophenyl)carbamate	Organic	Chlorpropham	101-21-3
Isopropyl ether	Organic	Isopropyl ether	108-20-3

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
	Isopropyl methylphosphonate	Organic	Isopropyl methyl phosphonic acid	1832-54-8
	Isopropyl methyl phosphonic acid	Organic	Isopropyl methyl phosphonic acid	1832-54-8
	Isopropyl methylphosphonic acid	Organic	Isopropyl methyl phosphonic acid	1832-54-8
	Isoxaben	Organic	Isoxaben	82558-50-7
K	Karate	Organic	Cyhalothrin	68085-85-8
	Karmex	Organic	Diuron	330-54-1
	Kepone	Organic	Kepone	143-50-0
	Kerb	Organic	Pronamide	23950-58-5
	Kerosene	Organic	Kerosene	8008-20-6
	Kerosine	Organic	Kerosene	8008-20-6
L	Lactofen	Organic	Lactofen	77501-63-4
	Lambast	Organic	Butachlor	23184-66-9
	Lanex	Organic	Fluometuron	2164-17-2
	Lannate	Organic	Methomyl	16752-77-5
	Lasiocarpine	Organic	Lasiocarpine	303-34-4
	Lasso	Organic	Alachlor	15972-60-8
	Lead	Inorganic	Lead	7439-92-1
	Lead acetate	Organic	Lead acetate	301-04-2
	Lead orthophosphate	Inorganic	Lead phosphate	7446-27-7
	Lead phosphate	Inorganic	Lead phosphate	7446-27-7
	Lead subacetate	Organic	Lead subacetate	1335-32-6
	Lead, tetraethyl-	Organic	Tetraethyl lead	78-00-2
	Lindane	Organic	gamma-BHC (Lindane)	58-89-9
	Linuron	Organic	Linuron	330-55-2
	Londax	Organic	Londax	83055-99-6
	Lorsban	Organic	Chlorpyrifos	2921-88-2
M	Malathion	Organic	Malathion	121-75-5
	Maleic anhydride	Organic	Maleic anhydride	108-31-6
	Maleic hydrazide	Organic	Maleic hydrazide	123-33-1
	Maneb	Organic	Maneb	12427-38-2
	Manganese	Inorganic	Manganese	7439-96-5
	Manzate	Organic	Maneb	12427-38-2
	Mavrik	Organic	Fluvalinate	69409-94-5
	MBAS	Organic	Foaming agents (MBAS)	
	MCPA	Organic	MCPA	94-74-6
	MCPB	Organic	MCPB	94-81-5
	MCPP	Organic	MCPP	93-65-2
	MEA	Organic	Ethanolamine	141-43-5
	Me-A-alpha-C	Organic	Me-A-alpha-C	68006-83-7
	Mecoprop	Organic	MCPP	93-65-2
	MeHg	Organic	Methyl mercury	22967-92-6
	MeIQ	Organic	MeIQ	77094-11-2
	MeIQx	Organic	MeIQx	77500-04-0
	MEK	Organic	Methyl ethyl ketone	78-93-3
	Melphalan	Organic	Melphalan	148-82-3
	Mepiquat chloride	Organic	Mepiquat chloride	24307-26-4
	Mercuric chloride	Inorganic	Mercuric chloride	7487-94-7
	Mercury (inorganic)	Inorganic	Mercury (inorganic)	7439-97-6
	Mercury, methyl	Organic	Methyl mercury	22967-92-6
	Mercury (total, including organic compounds)	Inorganic	Mercury (total, including organic compounds)	7439-97-6
	Merphos	Organic	Merphos	150-50-5
	Merphos oxide	Organic	Merphos oxide	78-48-8
	Mesityl oxide	Organic	Mesityl oxide	141-79-7
	Mesitylene	Organic	1,3,5-Trimethylbenzene	108-67-8
	Metalaxyl	Organic	Metalaxyl	57837-19-1
	Metam sodium	Organic	N-Methyl dithiocarbamate	137-42-8
	Metasulfuron methyl ester	Organic	Ally	74223-64-6
	Methacrylonitrile	Organic	Methacrylonitrile	126-98-7
	Methallyl chloride	Organic	3-Amino-9-ethylcarbazole hydrochloride	6109-97-3
	Metham	Organic	N-Methyl dithiocarbamate	137-42-8
	Methamidophos	Organic	Methamidophos	10265-92-6
	Methanal	Organic	Formaldehyde	50-00-0
	Methanecarboxamide	Organic	Acetamide	60-35-5
	Methanes, halo-	Organic	Halomethanes	
	Methanethiol	Organic	Methyl mercaptan	74-93-1
	Methanol	Organic	Methanol	67-56-1
	Methidathion	Organic	Methidathion	950-37-8
	Methomyl	Organic	Methomyl	16752-77-5
	o-Methoxyaniline	Organic	o-Anisidine	90-04-0
	4-Methoxy-1,3-benzenediamine	Organic	2,4-Diaminoanisole	615-05-4
	Methoxychlor	Organic	Methoxychlor	72-43-5
	2-Methoxyethanol	Organic	2-Methoxyethanol	109-86-4
	2-Methoxyethanol acetate	Organic	2-Methoxyethyl acetate	110-49-6
	2-Methoxyethyl acetate	Organic	2-Methoxyethyl acetate	110-49-6
	2-Methoxy-2-methylpropane	Organic	Methyl t-butyl ether (MtBE)	1634-04-4
	Methoxyphenylenediamine	Organic	2,4-Diaminoanisole	615-05-4
	Methoxypropazine	Organic	Prometon	1610-18-0
	Methyl acetate	Organic	Methyl acetate	79-20-9
	beta-Methyl acrolein	Organic	trans-Crotonaldehyde	4170-30-3
	Methyl acrylate	Organic	Methyl acrylate	96-33-3
	2-Methyl acrylonitrile	Organic	Methacrylonitrile	126-98-7
	Methyl alcohol	Organic	Methanol	67-56-1

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Methylamine	Organic	Methylamine	74-89-5
Methyl ((4-aminophenyl)sulfonyl)carbamate	Organic	Asulam	3337-71-1
Methylamyl alcohol	Organic	Methyl isobutyl carbinol	108-11-2
Methyl n-amyl ketone	Organic	Methyl n-amyl ketone	110-43-0
N-Methylaniline	Organic	N-Methylaniline	100-61-8
5-Methyl-o-anisidine	Organic	p-Cresidine	120-71-8
2-Methyl-1-anthraquinonylamine	Organic	1-Amino-2-methylanthraquinone	82-28-0
2-Methylaziridine	Organic	Propyleneimine	75-55-8
Methylbenzene	Organic	Toluene	108-88-3
Methyl bromide	Organic	Bromomethane	74-83-9
3-Methyl-1-butanol	Organic	Isoamyl alcohol	123-51-3
3-Methyl-2-butanone	Organic	Methyl isopropyl ketone	563-80-4
1-Methyl-4-tert-butylbenzene	Organic	p-tert-Butyltoluene	98-51-1
Methyl t-butyl ether	Organic	Methyl t-butyl ether (MtBE)	1634-04-4
Methyl n-butyl ketone	Organic	Methyl n-butyl ketone	591-78-6
Methyl carbamate	Organic	Methyl carbamate	598-55-0
Methyl cellosolve	Organic	2-Methoxyethanol	109-86-4
Methyl chloride	Organic	Chloromethane	74-87-3
Methyl chloroform	Organic	1,1,1-Trichloroethane	71-55-6
Methylchloromethyl ether	Organic	Chloromethyl methyl ether	107-30-2
2-Methyl-4-chlorophenol	Organic	4-Chloro-o-cresol	1570-64-5
3-Methyl-4-chlorophenol	Organic	4-Chloro-m-cresol	59-50-7
3-Methyl-6-chlorophenol	Organic	6-Chloro-m-cresol	615-74-7
2-Methyl-4-chlorophenoxyacetic acid	Organic	MCPA	94-74-6
4-(2-Methyl-4-chlorophenoxy)butyric acid	Organic	MCPB	94-81-5
2-(2-Methyl-4-chlorophenoxy)propionic acid	Organic	MCPP	93-65-2
3-Methylcholanthrene	Organic	3-Methylcholanthrene	56-49-5
5-Methylchrysene	Organic	5-Methylchrysene	3697-24-3
Methylcyclohexane	Organic	Methylcyclohexane	108-87-2
cis-3-Methylcyclohexanol	Organic	cis-3-Methylcyclohexanol	25639-42-3
Methyl 1,1-dimethylethyl ether	Organic	Methyl t-butyl ether (MtBE)	1634-04-4
2-Methyl-4,6-dinitrophenol	Organic	4,6-Dinitro-o-cresol	534-52-1
N-Methyl dithiocarbamate	Organic	N-Methyl dithiocarbamate	137-42-8
4,4'-Methylenebis(2-chloroaniline)	Organic	4,4'-Methylenebis(2-chloroaniline)	101-14-4
4,4'-Methylenebis(N,N-dimethyl)aniline	Organic	4,4'-Methylenebis(N,N-dimethyl)aniline	101-61-1
4,4'-Methylenebis(2-methylaniline)	Organic	4,4'-Methylenebis(2-methylaniline)	838-88-0
4,4'-Methylenebis(N,N-dimethyl)benzeneamine	Organic	4,4'-Methylenebis(N,N-dimethyl)aniline	101-61-1
Methylenebis(ortho-toluidine)	Organic	4,4'-Methylenebis(2-methylaniline)	838-88-0
Methylene blue active substances	Organic	Foaming agents (MBAS)	
Methylene chloride	Organic	Dichloromethane	75-09-2
4,4'-Methylenedianiline	Organic	4,4'-Methylenedianiline	101-77-9
1,2-(Methylenedioxy)-4-propylbenzene	Organic	Dihydrosafrole	94-58-6
Methyl ethyl ketone	Organic	Methyl ethyl ketone	78-93-3
Methyl ethyl nitrosamine	Organic	N-Nitrosomethylethylamine	10595-95-6
Methyl formate	Organic	Methyl formate	107-31-3
5-Methyl-3-heptanone	Organic	Ethyl n-amyl ketone	106-68-3
5-Methyl-2-hexanone	Organic	Methyl isoamyl ketone	110-12-3
Methylhydrazine	Organic	Methylhydrazine	60-34-4
Methylhydrazine sulfate	Organic	Methylhydrazine sulfate	302-15-8
Methyl isoamyl ketone	Organic	Methyl isoamyl ketone	110-12-3
Methyl isobutenyl ketone	Organic	Mesityl oxide	141-79-7
Methyl isobutyl carbinol	Organic	Methyl isobutyl carbinol	108-11-2
Methyl isobutyl ketone	Organic	Methyl isobutyl ketone (MIBK)	108-10-1
1-Methyl-2-(p-(isopropylcarbamoyl)benzyl)hydrazine	Organic	Procarbazine	671-16-9
Methyl isopropyl ketone	Organic	Methyl isopropyl ketone	563-80-4
Methylisothiocyanate	Organic	Methylisothiocyanate	556-61-6
Methyl mercaptan	Organic	Methyl mercaptan	74-93-1
Methyl mercury	Organic	Methyl mercury	22967-92-6
Methyl methacrylate	Organic	Methyl methacrylate	80-62-6
Methyl methanesulfonate	Organic	Methyl methanesulfonate	66-27-3
2-Methylnaphthalene	Organic	2-Methylnaphthalene	91-57-6
beta-Methylnaphthalene	Organic	2-Methylnaphthalene	91-57-6
2-Methyl-1-nitroanthraquinone	Organic	2-Methyl-1-nitroanthraquinone	129-15-7
m-Methylnitrobenzene	Organic	m-Nitrotoluene	1321-12-6
N-Methyl-N'-nitro-N-nitrosoguanidine	Organic	N-Methyl-N'-nitro-N-nitrosoguanidine	70-25-7
Methylnitrosourea	Organic	N-Nitroso-N-methylurea	684-93-5
Methylnitrosourethane	Organic	N-Nitroso-N-methylurethane	615-53-2
N-Methylolacrylamide	Organic	N-Methylolacrylamide	924-42-5
Methyl parathion	Organic	Methyl parathion	298-00-0
4-Methyl-2-pentanol	Organic	Methyl isobutyl carbinol	108-11-2
4-Methyl-2-pentanone	Organic	Methyl isobutyl ketone (MIBK)	108-10-1
2-Methylphenol	Organic	o-Cresol	95-48-7
3-Methylphenol	Organic	m-Cresol	108-39-4
4-Methylphenol	Organic	p-Cresol	106-44-5
2-Methyl-2-phenylpropane	Organic	tert-Butylbenzene	98-06-6
Methyl n-propyl ketone	Organic	Methyl n-propyl ketone	107-87-9
Methyl styrene	Organic	Vinyl toluene	25013-15-4
alpha-Methylstyrene	Organic	alpha-Methylstyrene	98-83-9
Methylthiofanate	Organic	Thiophanate-methyl	23564-05-8
Methylthiouracil	Organic	Methylthiouracil	56-04-2
Methylurethane	Organic	Methyl carbamate	598-55-0
Methyl vinyl nitrosamine	Organic	N-Nitrosomethylvinylamine	4549-40-0
Methyl yellow	Organic	4-Dimethylaminoazobenzene	60-11-7
2-Methyoxy-5-Methylaniline	Organic	p-Cresidine	120-71-8
Metolachlor	Organic	Metolachlor	51218-45-2

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Metribuzin	Organic	Metribuzin	21087-64-9
Metronidazole	Organic	Metronidazole	443-48-1
MIAK	Organic	Methyl isoamyl ketone	110-12-3
MIBC	Organic	Methyl isobutyl carbinol	108-11-2
MIBK	Organic	Methyl isobutyl ketone (MIBK)	108-10-1
Michler's ketone	Organic	Michler's ketone	90-94-8
Michler's methane	Organic	4,4'-Methylenebis(N,N-dimethyl)aniline	101-61-1
MIH	Organic	Procarbazine	671-16-9
Milogard	Organic	Propazine	139-40-2
Mirex	Organic	Mirex	2385-85-5
MITC	Organic	Methylisothiocyanate	556-61-6
Mitomycin C	Organic	Mitomycin C	50-07-7
Mitoxan	Organic	Cyclophosphamide	50-18-0
MMS	Organic	Methyl methanesulfonate	66-27-3
Mn	Inorganic	Manganese	7439-96-5
MNNG	Organic	N-Methyl-N'-nitro-N-nitrosoguanidine	70-25-7
MNU	Organic	N-Nitroso-N-methylurea	684-93-5
Mo	Inorganic	Molybdenum	7439-98-7
Molinate	Organic	Molinate	2212-67-1
Molybdenum	Inorganic	Molybdenum	7439-98-7
Moncut	Organic	Flutolanil	66332-96-5
Monitor	Organic	Methamidophos	10265-92-6
Monochloramine	Inorganic	Chloramine	127-65-1
Monochloroacetic acid	Organic	Chloroacetic acid	79-11-8
Monochlorobenzene	Organic	Chlorobenzene	108-90-7
Monocrotaline	Organic	Monocrotaline	315-22-0
Monoethanolamine	Organic	Ethanolamine	141-43-5
Mononitrophenols	Organic	Nitrophenol	25154-55-6
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone	Organic	5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone	139-91-3
MPK	Organic	Methyl n-propyl ketone	107-87-9
MtBE	Organic	Methyl t-butyl ether (MtBE)	1634-04-4
MX	Organic	MX	77439-76-0
Na	Inorganic	Sodium	7440-23-5
Naladixic acid	Organic	Nalidixic acid	389-08-2
Naled	Organic	Naled	300-76-5
Nalidixic acid	Organic	Nalidixic acid	389-08-2
Nalidixin	Organic	Nalidixic acid	389-08-2
Naphthalene	Organic	Naphthalene	91-20-3
Naphthalenes, chlorinated	Organic	Chlorinated naphthalenes	25586-43-0
2-Naphthalenesulfonic acid	Organic	Direct Black 38	1937-37-7
2-Naphthylamine	Organic	2-Naphthylamine	91-59-8
beta-Naphthylamine	Organic	2-Naphthylamine	91-59-8
Napropamide	Organic	Napropamide	15299-99-7
NDEA	Organic	N-Nitrosodiethylamine	55-18-5
NDMA	Organic	N-Nitrosodimethylamine	62-75-9
NDPA	Organic	N-Nitrosodiphenylamine	86-30-6
Nemacur	Organic	Fenamiphos	22224-92-6
Neocidol	Organic	Diazinon	333-41-5
NF 246	Organic	1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555-84-0
NFTA	Organic	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8
NH3	Inorganic	Ammonia	7664-41-7
NH4+	Inorganic	Ammonia	7664-41-7
NH2Cl	Inorganic	Chloramine	127-65-1
Ni	Inorganic	Nickel	7440-02-0
Nickel	Inorganic	Nickel	7440-02-0
Nickel carbonyl	Inorganic	Nickel carbonyl	13463-39-3
Nickel subsulfide	Inorganic	Nickel subsulfide	12035-72-2
Nifuradene	Organic	1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555-84-0
Nifurthiazole	Organic	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	3570-75-0
Nitralin	Organic	Nitralin	4726-14-1
Nitrate	Inorganic	Nitrate	14797-55-8
Nitrilotriacetate, trisodium monohydrate	Organic	Nitrilotriacetate, trisodium monohydrate	18662-53-8
Nitrilotriacetic acid	Organic	Nitrilotriacetic acid	139-13-9
Nitrite	Inorganic	Nitrite	14797-65-0
5-Nitroacenaphthene	Organic	5-Nitroacenaphthene	602-87-9
5-Nitro-o-anisidine	Organic	5-Nitro-o-anisidine	99-59-2
Nitrobenzene	Organic	Nitrobenzene	98-95-3
6-Nitrochrysene	Organic	6-Nitrochrysene	2042475
Nitroethane	Organic	Nitroethane	79-24-3
Nitrofen	Organic	Nitrofen	1836-75-5
Nitrofene	Organic	Nitrofen	1836-75-5
2-Nitrofluorene	Organic	2-Nitrofluorene	607-57-8
Nitrofurazone	Organic	Nitrofurazone	59-87-0
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	Organic	1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555-84-0
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	Organic	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8
Nitroglycerin	Organic	Trinitroglycerol	55-63-0
Nitroguanidine	Organic	Nitroguanidine	556-88-7
Nitromethane	Organic	Nitromethane	75-52-5
Nitrophenol	Organic	Nitrophenol	25154-55-6
2-Nitrophenol	Organic	2-Nitrophenol	25154-55-7
4-Nitrophenol	Organic	4-Nitrophenol	25154-55-8
o-Nitrophenol	Organic	2-Nitrophenol	25154-55-7
p-Nitrophenol	Organic	4-Nitrophenol	25154-55-8
Nitrophenols	Organic	Nitrophenols	

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
1-Nitropropane	Organic	1-Nitropropane	108-03-2
2-Nitropropane	Organic	2-Nitropropane	79-46-9
1-Nitropyrene	Organic	1-Nitropyrene	5522-43-0
4-Nitropyrene	Organic	4-Nitropyrene	57835-92-4
Nitrosamines	Organic	Nitrosamines	
N-Nitroso-N-methylethylamine	Organic	N-Nitrosomethylethylamine	10595-95-6
N-Nitroso-N-methylurea	Organic	N-Nitroso-N-methylurea	684-93-5
N-Nitrosodi-n-butylamine	Organic	N-Nitrosodi-n-butylamine	924-16-3
N-Nitrosodiethanolamine	Organic	N-Nitrosodiethanolamine	1116-54-7
N-Nitrosodiethylamine	Organic	N-Nitrosodiethylamine	55-18-5
N-Nitrosodimethylamine	Organic	N-Nitrosodimethylamine	62-75-9
N-Nitrosodiphenylamine	Organic	N-Nitrosodiphenylamine	86-30-6
p-Nitrosodiphenylamine	Organic	p-Nitrosodiphenylamine	156-10-5
N-Nitrosodi-n-propylamine	Organic	N-Nitrosodipropylamine	621-64-7
N-Nitrosodipropylamine	Organic	N-Nitrosodipropylamine	621-64-7
N-Nitroso-N-ethylurea	Organic	N-Nitroso-N-ethylurea	759-73-9
Nitrosohydantoic acid	Organic	N-Carboxymethyl-N-nitrosourea	60391-92-6
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone	Organic	4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone	64091-91-4
N-Nitrosomethylethylamine	Organic	N-Nitrosomethylethylamine	10595-95-6
N-Nitroso-N-methylurea	Organic	N-Nitroso-N-methylurea	684-93-5
N-Nitroso-N-methylurethane	Organic	N-Nitroso-N-methylurethane	615-53-2
N-Nitrosomethylvinylamine	Organic	N-Nitrosomethylvinylamine	4549-40-0
N-Nitrosomorpholine	Organic	N-Nitrosomorpholine	59-89-2
N-Nitrosonornicotine	Organic	N-Nitrosonornicotine	16543-55-8
N-Nitrosopiperidine	Organic	N-Nitrosopiperidine	100-75-4
N-Nitrosopyrrolidine	Organic	N-Nitrosopyrrolidine	930-55-2
N-Nitrososarcosine	Organic	N-Nitrososarcosine	13256-22-9
m-Nitrotoluene	Organic	m-Nitrotoluene	1321-12-6
Nitrous acid, isobutyl ester	Organic	Isobutyl nitrite	542-56-3
NNK	Organic	4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone	64091-91-4
NO2-	Inorganic	Nitrite	14797-65-0
NO3-	Inorganic	Nitrate	14797-55-8
Nonachlor	Organic	trans-Nonachlor	39765-80-5
trans-Nonachlor	Organic	trans-Nonachlor	39765-80-5
Nonane	Organic	Nonane	111-84-2
Nonylphenol	Organic	Nonylphenol	25154-52-3
Norflurazon	Organic	Norflurazon	27314-13-2
NPN	Organic	n-Propyl nitrate	627-13-4
NTA	Organic	Nitrilotriacetic acid	139-13-9
NTA	Organic	Nitrilotriacetate, trisodium monohydrate	18662-53-8
NuStar	Organic	NuStar	85509-19-9

O

O2	Inorganic	Oxygen, dissolved	7782-44-7
O3	Inorganic	Ozone	10028-15-6
1,2,3,4,6,7,8,9-OCDD	Organic	Octachlorodibenzo-p-dioxin	3268-87-9
1,2,3,4,6,7,8,9-OCDF	Organic	Octachlorodibenzofuran	39001-02-0
Ochratoxin A	Organic	Ochratoxin A	303-47-9
Octabromodiphenyl ether	Organic	Octabromodiphenyl ether	32536-52-0
1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	Organic	Octachlorodibenzo-p-dioxin	3268-87-9
Octachlorodibenzo-p-dioxin	Organic	Octachlorodibenzo-p-dioxin	3268-87-9
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	Organic	Octachlorodibenzofuran	39001-02-0
Octachlorodibenzofuran	Organic	Octachlorodibenzofuran	39001-02-0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	Organic	HMX	2691-41-0
Octane	Organic	Octane	111-65-9
Odor	Inorganic	Odor	
Oil	Organic	Oil and Grease	
Oil and Grease	Organic	Oil and Grease	
Omite	Organic	Propargite	2312-35-8
Ordram	Organic	Molinate	2212-67-1
Orthocide	Organic	Captan	133-06-2
Ortho paraquat	Organic	Paraquat	1910-42-5
ortho-Toluidine	Organic	o-Toluidine	95-53-4
Oryzalin	Organic	Oryzalin	19044-88-3
Osmium tetroxide	Inorganic	Osmium tetroxide	20816-12-0
OsO4	Inorganic	Osmium tetroxide	20816-12-0
Oxadiazon	Organic	Oxadiazon	19666-30-9
Oxamyl	Organic	Oxamyl	23135-22-0
Oxirane	Organic	Ethylene oxide (ETO)	75-21-8
2,2'-Oxybis(1-chloropropane)	Organic	Bis(2-chloroisopropyl) ether	108-60-1
Oxychlordane	Organic	Oxychlordane	27304-13-8
4,4'-Oxydianiline	Organic	4,4'-Diaminodiphenyl ether	101-80-4
Oxyfluorfen	Organic	Oxyfluorfen	42874-03-3
Oxygen, dissolved	Inorganic	Oxygen, dissolved	7782-44-7
Ozone	Inorganic	Ozone	10028-15-6

P

P	Inorganic	Phosphorus	7723-14-0
Paclobutrazol	Organic	Paclobutrazol	76738-62-0
PAHs	Organic	PAHs	
Paraffins, chlorinated	Organic	Chlorinated paraffins	
Paraquat	Organic	Paraquat	1910-42-5
Parathion-methyl	Organic	Methyl parathion	298-00-0
Parathion	Organic	Parathion	56-38-2
Pb	Inorganic	Lead	7439-92-1
PBBs	Organic	Polybrominated biphenyls	
PBDE-153	Organic	2,2',4,4',5,5'-Hexabromodiphenyl ether	68631-49-2

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
PBDE-47	Organic	2,2',4,4'-Tetrabromodiphenyl ether	5436-43-1
PBDE-99	Organic	2,2',4,4',5-Pentabromodiphenyl ether	60348-60-9
2-P(butylphenoxy)-1-methylethyl-2-chloroethyl sulfite	Organic	Aramite	140-57-8
PCB 77	Organic	3,3',4,4'-Tetrachlorobiphenyl	32598-13-3
PCB 81	Organic	3,4,4',5-Tetrachlorobiphenyl	70362-50-4
PCB 105	Organic	2,3,3',4,4'-Pentachlorobiphenyl	332598-14-4
PCB 114	Organic	2,3,4,4',5-Pentachlorobiphenyl	74472-37-0
PCB 118	Organic	2,3',4,4',5-Pentachlorobiphenyl	31508-00-6
PCB 123	Organic	2',3,4,4',5-Pentachlorobiphenyl	65510-44-3
PCB 126	Organic	3,3',4,4',5-Pentachlorobiphenyl	57465-28-8
PCB 156	Organic	2,3,3',4,4',5-Hexachlorobiphenyl	38380-08-4
PCB 157	Organic	2,3,3',4,4',5'-Hexachlorobiphenyl	69782-90-7
PCB 167	Organic	2,3',4,4',5,5'-Hexachlorobiphenyl	52663-72-6
PCB 169	Organic	3,3',4,4',5,5'-Hexachlorobiphenyl	32774-16-6
PCB 189	Organic	2,3,3',4,4',5,5'-Heptachlorobiphenyl	39635-31-9
PCBs	Organic	Polychlorinated biphenyls	1336-36-3
PCE	Organic	Tetrachloroethylene (PCE)	127-18-4
PCNB	Organic	Pentachloronitrobenzene	82-68-8
PCP	Organic	Pentachlorophenol	87-86-5
PDB	Organic	1,4-Dichlorobenzene	106-46-7
1,2,3,7,8-PeCDD	Organic	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4
1,2,3,7,8-PeCDF	Organic	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6
2,3,4,7,8-PeCDF	Organic	2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4
Pendimethalin	Organic	Pendimethalin	40487-42-1
Penta	Organic	Pentachlorophenol	87-86-5
PentaBDE	Organic	Pentabromodiphenyl ether	32534-81-9
2,2',4,4',5-Pentabromodiphenyl ether	Organic	2,2',4,4',5-Pentabromodiphenyl ether	60348-60-9
Pentabromodiphenyl ether	Organic	Pentabromodiphenyl ether	32534-81-9
Pentachlorobenzene	Organic	Pentachlorobenzene	608-93-5
2,3,3',4,4'-Pentachlorobiphenyl	Organic	2,3,3',4,4'-Pentachlorobiphenyl	332598-14-4
2,3,4,4',5-Pentachlorobiphenyl	Organic	2,3,4,4',5-Pentachlorobiphenyl	74472-37-0
2',3,4,4',5-Pentachlorobiphenyl	Organic	2',3,4,4',5-Pentachlorobiphenyl	65510-44-3
2,3',4,4',5-Pentachlorobiphenyl	Organic	2,3',4,4',5-Pentachlorobiphenyl	31508-00-6
3,3',4,4',5-Pentachlorobiphenyl	Organic	3,3',4,4',5-Pentachlorobiphenyl	57465-28-8
1,2,3,7,8-Pentachlorodibenzodioxin	Organic	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	Organic	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4
1,2,3,7,8-Pentachlorodibenzofuran	Organic	1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6
2,3,4,7,8-Pentachlorodibenzofuran	Organic	2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4
Pentachloroethane	Organic	Pentachloroethane	76-01-7
Pentachloronitrobenzene	Organic	Pentachloronitrobenzene	82-68-8
Pentachlorophenol	Organic	Pentachlorophenol	87-86-5
Pentanal	Organic	n-Valeraldehyde	110-62-3
Pentane	Organic	Pentane	109-66-0
2-Pentanone	Organic	Methyl n-propyl ketone	107-87-9
3-Pentanone	Organic	Diethyl ketone	96-22-0
Perchlorate	Inorganic	Perchlorate	14797-73-0
Perchlorobenzene	Organic	Hexachlorobenzene	118-74-1
Perchlorobutadiene	Organic	Hexachlorobutadiene	87-68-3
Perchloroethane	Organic	Hexachloroethane	67-72-1
Perchloroethylene	Organic	Tetrachloroethylene (PCE)	127-18-4
Perflan	Organic	Tebuthiuron	34014-18-1
Permethrin	Organic	Permethrin	52645-53-1
Petroleum hydrocarbons	Organic	Diesel Oil	68476-34-6
		Gasoline	8006-61-9
		Kerosene	8008-20-6
pH	Inorganic	pH	
Phenacetin	Organic	Phenacetin	62-44-2
Phenamiphos	Organic	Fenamiphos	22224-92-6
Phenanthrene	Organic	Phenanthrene	85-01-8
Phenazopyridine	Organic	Phenazopyridine	94-78-0
Phenesterin	Organic	Phenesterin	600010
Phenmedipham	Organic	Phenmedipham	13684-63-4
Phenobarbital	Organic	Phenobarbital	50-06-6
Phenol	Organic	Phenol	108-95-2
Phenols, chlorinated	Organic	Chlorinated phenols	
Phenols, nitro-	Organic	Nitrophenols	
Phenols, non-chlorinated	Organic	Phenols, non-chlorinated	
Phenoxybenzamine	Organic	Phenoxybenzamine	59-96-1
Phenylamine	Organic	Aniline	62-53-3
Phenylbenzene	Organic	1,1-Biphenyl	92-52-4
Phenyl bromide	Organic	Bromobenzene	108-86-1
1-Phenylbutane	Organic	n-Butylbenzene	104-51-8
2-Phenylbutane	Organic	sec-Butylbenzene	135-98-8
m-Phenylenediamine	Organic	m-Phenylenediamine	108-45-2
o-Phenylenediamine	Organic	o-Phenylenediamine	95-54-5
Phenylethane	Organic	Ethylbenzene	100-41-4
Phenyl ether	Organic	Phenyl ether	101-84-8
Phenyl glycidyl ether	Organic	Phenyl glycidyl ether	122-60-1
Phenylhydrazine	Organic	Phenylhydrazine	100-63-0
Phenyl mercaptan	Organic	Phenyl mercaptan	108-98-5
Phenylmercuric acetate	Organic	Phenylmercuric acetate	62-38-4
Phenylmethylketone	Organic	Acetophenone	98-86-2
o-Phenylphenate, sodium	Organic	o-Phenylphenate, sodium	132-27-4
1-Phenylpropane	Organic	n-Propylbenzene	103-65-1
2-Phenylpropane	Organic	Cumene	98-82-8

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Phorate	Organic	Phorate	298-02-2
Phosmet	Organic	Phosmet	732-11-6
Phosphate phosphorus	Inorganic	Phosphate phosphorus	14265-44-2
Phosphine	Inorganic	Phosphine	7803-51-2
Phosphoric acid, trimethyl ester	Organic	Trimethyl phosphate	512-56-1
Phosphorus	Inorganic	Phosphorus	7723-14-0
Phostoxin	Inorganic	Aluminum phosphide	20859-73-8
Phthalate acid esters (PAE)	Organic	Phthalate esters	
		n-Butyl benzyl phthalate	85-68-7
		Diethyl phthalate	84-66-2
		Dimethyl phthalate	131-11-3
		Di(n-octyl) phthalate	117-84-0
		Butylphthalyl butylglycolate	85-70-1
		Dibutyl phthalate	84-74-2
		Di(2-ethylhexyl)phthalate	117-81-7
		Ethylphthalyl ethylglycolate	84-72-0
Phthalate esters	Organic	Phthalate esters	
Phthalates	Organic	Phthalate esters	
Phthalic anhydride	Organic	Phthalic anhydride	85-44-9
Picloram	Organic	Picloram	5145
Picric acid	Organic	Trinitrophenol	88-89-1
Pirimiphos-methyl	Organic	Pirimiphos-methyl	29232-93-7
Planavin	Organic	Nitralin	4726-14-1
PNAs	Organic	PAHs	
Poast	Organic	Sethoxydim	74051-80-2
Poligeenan	Organic	Polygeenan	53973-98-1
Polybrominated biphenyls	Organic	Polybrominated biphenyls	
Polychlorinated biphenyls	Organic	Polychlorinated biphenyls	1336-36-3
		2,3,3',4,4',5,5'-Heptachlorobiphenyl	39635-31-9
		2,3,3',4,4',5'-Hexachlorobiphenyl	69782-90-7
		2,3,3',4,4',5-Hexachlorobiphenyl	38380-08-4
		2,3',4,4',5,5'-Hexachlorobiphenyl	52663-72-6
		3,3',4,4',5,5'-Hexachlorobiphenyl	32774-16-6
		2,3,3',4,4'-Pentachlorobiphenyl	332598-14-4
		2,3,4,4',5-Pentachlorobiphenyl	74472-37-0
		2',3,4,4',5-Pentachlorobiphenyl	65510-44-3
		2,3',4,4',5-Pentachlorobiphenyl	31508-00-6
		3,3',4,4',5-Pentachlorobiphenyl	57465-28-8
		3,3',4,4'-Tetrachlorobiphenyl	32598-13-3
		3,4,4',5-Tetrachlorobiphenyl	70362-50-4
Polygeenan	Organic	Polygeenan	53973-98-1
Polynuclear aromatic hydrocarbons	Organic	PAHs	
		Acenaphthene	83-32-9
		Acenaphthylene	208-96-8
		Anthracene	120-12-7
		Benz(a)anthracene	56-55-3
		Benzo(b)fluoranthene	205-99-2
		Benzo(j)fluoranthene	205-82-3
		Benzo(k)fluoranthene	207-08-9
		Benzo(g,h,i)perylene	191-24-2
		Benzo(a)pyrene	50-32-8
		Chrysene	218-01-9
		Dibenz(a,h)anthracene	53-70-3
		7H-Dibenzo(c,g)carbazole	194-59-2
		Dibenzo(a,e)pyrene	192-65-4
		Dibenzo(a,h)pyrene	189-64-0
		Dibenzo(a,i)pyrene	189-55-9
		Dibenzo(a,l)pyrene	191-30-0
		7,12-Dimethylbenz(a)anthracene	57-97-6
		Fluoranthene	206-44-0
		Fluorene	86-73-7
		Indeno(1,2,3-c,d)pyrene	193-39-5
		Phenanthrene	85-01-8
		Pyrene	129-00-0
Ponceau MC	Organic	Ponceau MC	3761-53-3
Ponceau MX	Organic	Ponceau MC	3761-53-3
Ponceau 3R	Organic	Ponceau 3R	606554
Potassium bromate	Inorganic	Potassium bromate	2138132
Potassium cyanide	Inorganic	Potassium cyanide	151-50-8
Potassium dimethyldithiocarbamate	Organic	Potassium dimethyldithiocarbamate	
Potassium silver cyanide	Inorganic	Potassium silver cyanide	506-61-6
PPTC	Organic	Vernam	1929-77-7
Pramitol	Organic	Prometon	1610-18-0
Princep	Organic	Simazine	122-34-9
Procarbazine	Organic	Procarbazine	671-16-9
Prochloraz	Organic	Prochloraz	67747-09-5
Profam	Organic	Propham	122-42-9
Prometon	Organic	Prometon	1610-18-0
Prometryn	Organic	Prometryn	7287-19-6
Pronamide	Organic	Pronamide	23950-58-5
Propachlor	Organic	Propachlor	1918-16-7
Propane	Organic	Propane	74-98-6
Propanes, dichloro-	Organic	Dichloropropanes	26638-19-7
1,3-Propane sultone	Organic	1,3-Propane sultone	1120-71-4
Propanil	Organic	Propanil	709-98-8

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
	Propanoic acid	Organic	Propionic acid	93-65-2
	1-Propanol	Organic	n-Propyl alcohol	71-23-8
	Propargite	Organic	Propargite	2312-35-8
	Propargyl alcohol	Organic	Propargyl alcohol	107-19-7
	Propazine	Organic	Propazine	139-40-2
	Propene	Organic	Propylene	115-07-1
	2-Propeneamide	Organic	Acrylamide	79-06-1
	2-Propenenitrile	Organic	Acrylonitrile	107-13-1
	Propenes, dichloro-	Organic	Dichloropropenes	
	2-Propenoic acid	Organic	Acrylic acid	79-10-7
	Propenyl alcohol	Organic	Allyl alcohol	107-18-6
	2-Propenyl chloride	Organic	3-Chloropropene	107-05-1
	Propham	Organic	Propham	122-42-9
	Prophos	Organic	Propham	122-42-9
	Propiconazole	Organic	Propiconazole	60207-90-1
	beta-Propiolactone	Organic	beta-Propiolactone	57-57-8
	Propionic acid	Organic	Propionic acid	93-65-2
	Propoxur	Organic	Baygon	114-26-1
	n-Propyl acetate	Organic	n-Propyl acetate	109-60-4
	n-Propyl alcohol	Organic	n-Propyl alcohol	71-23-8
	n-Propylbenzene	Organic	n-Propylbenzene	103-65-1
	Propylene	Organic	Propylene	115-07-1
	Propylene dichloride	Organic	1,2-Dichloropropane	78-87-5
	Propyleneimine	Organic	Propyleneimine	75-55-8
	Propylene oxide	Organic	Propylene oxide	75-56-9
	n-Propyl nitrate	Organic	n-Propyl nitrate	627-13-4
	Propylthiouracil	Organic	Propylthiouracil	51-52-5
	2-Propynol	Organic	Propargyl alcohol	107-19-7
	Propyzamide	Organic	Pronamide	23950-58-5
	Prowl	Organic	Pendimethalin	40487-42-1
	Prussite	Organic	Cyanogen	460-19-5
	Pseudocumene	Organic	1,2,4-Trimethylbenzene	95-63-6
	Pursuit	Organic	Pursuit	81335-77-5
	Pydrin	Organic	Pydrin	51630-58-1
	Pyrene	Organic	Pyrene	129-00-0
	Pyridine	Organic	Pyridine	110-86-1
Q	Quinalphos	Organic	Quinalphos	13593-03-8
	Quinofop-ethyl	Organic	Assure	76578-14-8
	Quinoline	Organic	Quinoline	91-22-5
	Quinone	Organic	Quinone	106-51-4
	Quintozine	Organic	Pentachloronitrobenzene	82-68-8
	Quizalofop-ethyl	Organic	Assure	76578-14-8
R	Radioactivity, Gross Alpha	Inorganic	Radioactivity, Gross Alpha	
	Radioactivity, Gross Beta	Inorganic	Radioactivity, Gross Beta	
	Radium-226 + Radium-228	Inorganic	Radium-226 + Radium-228	7440-14-4
	Radon	Inorganic	Radon	14859-67-7
	Rally	Organic	Systhane	88671-89-0
	Ramrod	Organic	Propachlor	1918-16-7
	226Ra + 228Ra	Inorganic	Radium-226 + Radium-228	7440-14-4
	RDX (Cyclonite)	Organic	RDX (Cyclonite)	121-82-4
	Redax	Organic	N-Nitrosodiphenylamine	86-30-6
	Reglone	Organic	Diquat	85-00-7
	Reserpine	Organic	Reserpine	50-55-5
	Resmethrin	Organic	Resmethrin	10453-86-8
	Resorcinol	Organic	Resorcinol	108-46-3
	Retard	Organic	Maleic hydrazide	123-33-1
	Rn	Inorganic	Radon	14859-67-7
	Rodeo	Organic	Glyphosate	1071-83-6
	Ronilan	Organic	Vinclozolin	50471-44-8
	Rotenone	Organic	Rotenone	83-79-4
	Roundup	Organic	Glyphosate	1071-83-6
	Rovral	Organic	Iprodione	36734-19-7
	RU 25474	Organic	Tralomethrin	66841-25-6
S	Safrole	Organic	Safrole	94-59-7
	Savey	Organic	Savey	78587-05-0
	Sb	Inorganic	Antimony	7440-36-0
	SBP-1382	Organic	Resmethrin	10453-86-8
	Scepter	Organic	Imazaquin	81335-37-7
	Se	Inorganic	Selenium	7782-49-2
	Selenium	Inorganic	Selenium	7782-49-2
	Sethoxydim	Organic	Sethoxydim	74051-80-2
	Settleable solids		Settleable solids	
	Sevin	Organic	Carbaryl	63-25-2
	Silver	Inorganic	Silver	7440-22-4
	Silver cyanide	Inorganic	Silver cyanide	506-64-9
	Silver potassium cyanide	Inorganic	Potassium silver cyanide	506-61-6
	Silvex	Organic	2,4,5-TP (Silvex)	93-72-1
	Simazine	Organic	Simazine	122-34-9
	Sinbar	Organic	Terbacil	5902-51-2
	SO4=	Inorganic	Sulfate	14808-79-8
	Sodium	Inorganic	Sodium	7440-23-5
	Sodium azide	Inorganic	Sodium azide	26628-22-8
	Sodium cyanide	Inorganic	Sodium cyanide	143-33-9
	Sodium diethyldithiocarbamate	Organic	Sodium diethyldithiocarbamate	148-18-5
	Sodium dimethyldithiocarbamate	Organic	Sodium dimethyldithiocarbamate	128-04-1

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Sodium fluoroacetate	Organic	Sodium fluoroacetate	62-74-8
Sodium o-phenylphenate	Organic	o-Phenylphenate, sodium	132-27-4
Sonar	Organic	Fluridone	59756-60-4
Specific conductance	Inorganic	Electrical Conductivity	
Spike	Organic	Tebuthiuron	34014-18-1
90Sr	Inorganic	Strontium-90	10098-97-2
Sr	Inorganic	Strontium	7440-24-6
Sterigmatocystin	Organic	Sterigmatocystin	10048-13-2
Steri-Seal	Organic	o-Phenylphenate, sodium	132-27-4
Stockade	Organic	Cypermethrin	52315-07-8
Stop Mold	Organic	o-Phenylphenate, sodium	132-27-4
Streptozocin	Organic	Streptozotocin	18883-66-4
Streptozotocin	Organic	Streptozotocin	18883-66-4
Strontium	Inorganic	Strontium	7440-24-6
Strontium-90	Inorganic	Strontium-90	10098-97-2
Strychnine	Organic	Strychnine	57-24-9
Styrene	Organic	Styrene	100-42-5
Styrene oxide	Organic	Styrene oxide	96-09-3
Subdue	Organic	Metalaxyl	57837-19-1
Sugar of lead	Organic	Lead acetate	301-04-2
Sulfallate	Organic	Sulfallate	95-06-7
Sulfate	Inorganic	Sulfate	14808-79-8
Sulfonamide	Organic	Chlorsulfuron	64902-72-3
Sulfonimide	Organic	Captafol	190444
Sulfur dioxide	Inorganic	Sulfur dioxide	2024422
Sutan	Organic	Butylate	2008-41-5
Systhane	Organic	Systhane	88671-89-0
Systox	Organic	Demeton	8065-48-3
T			
2,4,5-T	Organic	2,4,5-T	93-76-5
Talstar	Organic	Biphenthrin	82657-04-3
Tandem	Organic	Tridiphane	58138-08-2
TBA	Organic	tert-Butyl alcohol	75-65-0
TBT	Organic	Tributyltin	688-73-3
1,1,1-TCA	Organic	1,1,1-Trichloroethane	71-55-6
1,1,2-TCA	Organic	1,1,2-Trichloroethane	79-00-5
unsymmetrical-TCB	Organic	1,2,4-Trichlorobenzene	120-82-1
2,3,7,8-TCDD	Organic	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
2,3,7,8-TCDF	Organic	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9
TCE	Organic	Trichloroethylene (TCE)	79-01-6
1,2,3-TCP	Organic	1,2,3-Trichloropropane	96-18-4
TDS		Total dissolved solids (TDS)	
Tebuthiuron	Organic	Tebuthiuron	34014-18-1
TEDP	Organic	Tetraethyldithiopyrophosphate	3689-24-5
TEL	Organic	Tetraethyl lead	78-00-2
Telone, minor component of	Organic	1,2-Dichloropropane	78-87-5
Telone II	Organic	1,3-Dichloropropene	542-75-6
Temik	Organic	Aldicarb	116-06-3
Terbacil	Organic	Terbacil	5902-51-2
Terbufos	Organic	Terbufos	13071-79-9
Terbutryn	Organic	Terbutryn	886-50-0
Terraclor	Organic	Pentachloronitrobenzene	82-68-8
2,2',4,4'-Tetrabromodiphenyl ether	Organic	2,2',4,4'-Tetrabromodiphenyl ether	5436-43-1
1,2,4,5-Tetrachlorobenzene	Organic	1,2,4,5-Tetrachlorobenzene	95-94-3
3,3',4,4'-Tetrachlorobiphenyl	Organic	3,3',4,4'-Tetrachlorobiphenyl	32598-13-3
3,4,4',5-Tetrachlorobiphenyl	Organic	3,4,4',5-Tetrachlorobiphenyl	70362-50-4
2,3,7,8-Tetrachlorodibenzodioxin	Organic	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
2,3,7,8-Tetrachlorodibenzo-p-dioxin	Organic	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
2,3,7,8-Tetrachlorodibenzofuran	Organic	2,3,7,8-Tetrachlorodibenzofuran	51207-31-9
1,1,1,2-Tetrachloroethane	Organic	1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	Organic	1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethene	Organic	Tetrachloroethylene (PCE)	127-18-4
Tetrachloroethylene	Organic	Tetrachloroethylene (PCE)	127-18-4
Tetrachloromethane	Organic	Carbon tetrachloride	56-23-5
2,3,4,6-Tetrachlorophenol	Organic	2,3,4,6-Tetrachlorophenol	58-90-2
2,3,5,6-Tetrachlorophenol	Organic	2,3,5,6-Tetrachlorophenol	935-95-5
2,3,5,6-Tetrachloroterephthalate	Organic	2,3,5,6-Tetrachloroterephthalate	2136-79-0
2,3,5,6-Tetrachloroterephthalic acid	Organic	2,3,5,6-Tetrachloroterephthalate	2136-79-0
2,3,5,6-Tetrachloroterephthalic acid dimethyl ether	Organic	Dacthal (DCPA)	1861-32-1
Tetrachlorovinphos	Organic	Tetrachlorovinphos	961-11-5
Tetrachlorvinphos	Organic	Tetrachlorovinphos	961-11-5
Tetraethyldithiopyrophosphate	Organic	Tetraethyldithiopyrophosphate	3689-24-5
Tetraethyl lead	Organic	Tetraethyl lead	78-00-2
Tetramethyldiaminobenzophenone	Organic	Michler's ketone	90-94-8
1,4,5,8-Tetraminoanthraquinone	Organic	Disperse Blue 1	2475-45-8
Tetranitromethane	Organic	Tetranitromethane	509-14-8
Th	Inorganic	Thallium	7440-28-0
Thallium	Inorganic	Thallium	7440-28-0
Thimet	Organic	Phorate	298-02-2
Thioacetamide	Organic	Thioacetamide	62-55-5
Thiobencarb	Organic	Thiobencarb	28249-77-6
Thiocarb	Organic	Sodium diethyldithiocarbamate	148-18-5
Thiodan	Organic	Endosulfan	115-29-7
4,4'-Thiodianiline	Organic	4,4'-Thiodianiline	139-65-1
Thiophanate-methyl	Organic	Thiophanate-methyl	23564-05-8
Thiophenol	Organic	Phenyl mercaptan	108-98-5
Thiophos	Organic	Parathion	56-38-2
Thiotepa	Organic	Tris(1-aziridinyl)phosphine sulfide	52-24-4
Thiourea	Organic	Thiourea	62-56-6

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Thiram	Organic	Thiram	137-26-8
Thriafur	Organic	2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	712-68-5
Tin, tributyl-	Organic	Tributyltin	688-73-3
TNT	Organic	2,4,6-Trinitrotoluene (TNT)	118-96-7
o-Tolidine	Organic	3,3'-Dimethylbenzidine	119-93-7
Toluene	Organic	Toluene	108-88-3
2,4-Toluenediamine	Organic	2,4-Diaminotoluene	95-80-7
Toluene diisocyanate	Organic	Toluene diisocyanate	26471-62-5
Toluenes, dinitro-	Organic	Dinitrotoluenes	25321-14-6
o-Toluidine	Organic	o-Toluidine	95-53-4
Tolyl chloride	Organic	Benzyl chloride	100-44-7
Tordon	Organic	Picloram	5145
Total dissolved solids		Total dissolved solids (TDS)	
Toxaphene	Organic	Toxaphene	8001-35-2
2,4,5-TP	Organic	2,4,5-TP (Silvex)	93-72-1
Trp-P-1	Organic	Tryptophan-P-1	62450-06-0
Trp-P-2	Organic	Tryptophan-P-2	62450-07-1
Tralomethrin	Organic	Tralomethrin	66841-25-6
Treflan	Organic	Trifluralin	1582-09-8
Triallate	Organic	Triallate	2303-17-5
Triasulfuron	Organic	Triasulfuron	82097-50-5
1,2,4-Tribromo-5-(2,4-dibromophenoxy)benzene	Organic	2,2',4,4',5-Pentabromodiphenyl ether	60348-60-9
1,2,4-Tribromobenzene	Organic	1,2,4-Tribromobenzene	615-54-3
Tribromomethane	Organic	Bromoform	75-25-2
Tribufos	Organic	Merphos	150-50-5
Tributyltin	Organic	Tributyltin	688-73-3
1,1,1-Trichloro-2,2-ethanediol	Organic	Chloral hydrate	302-17-0
Trichlorfon	Organic	Trichlorfon	52-68-6
Trichloroacetaldehyde, hydrated	Organic	Chloral hydrate	302-17-0
Trichloroacetic acid	Organic	Trichloroacetic acid	76-03-9
Trichloroacetonitrile	Organic	Trichloroacetonitrile	545-06-02
1,2,4-Trichlorobenzene	Organic	1,2,4-Trichlorobenzene	120-82-1
1,3,5-Trichlorobenzene	Organic	1,3,5-Trichlorobenzene	108-70-3
unsymmetrical-Trichlorobenzene	Organic	1,2,4-Trichlorobenzene	120-82-1
Trichlorobenzenes	Organic	Trichlorobenzenes	12002-48-1
1,1,1-Trichloroethane	Organic	1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	Organic	1,1,2-Trichloroethane	79-00-5
Trichloroethene	Organic	Trichloroethylene (TCE)	79-01-6
1,1,2-Trichloroethylene	Organic	Trichloroethylene (TCE)	79-01-6
Trichloroethylene	Organic	Trichloroethylene (TCE)	79-01-6
Trichloroethylidene ghycol	Organic	Chloral hydrate	302-17-0
Trichlorofluoromethane	Organic	Trichlorofluoromethane	75-69-4
Trichloromethane	Organic	Chloroform	67-66-3
(Trichloromethyl)benzene	Organic	Benzotrichloride	98-07-7
N-Trichloromethylmercapto-tetrahydrophthalimide	Organic	Captan	133-06-2
2,4,5-Trichlorophenol	Organic	2,4,5-Trichlorophenol	95-95-4
2,4,6-Trichlorophenol	Organic	2,4,6-Trichlorophenol	88-06-2
2,4,5-Trichlorophenoxyacetic acid	Organic	2,4,5-T	93-76-5
2 (2,4,5-Trichlorophenoxy) propionic acid	Organic	2,4,5-TP (Silvex)	93-72-1
2,4,5-Trichlorophenoxypropionic acid	Organic	2,4,5-TP (Silvex)	93-72-1
1,1,2-Trichloropropane	Organic	1,1,2-Trichloropropane	598-77-6
1,2,3-Trichloropropane	Organic	1,2,3-Trichloropropane	96-18-4
1,1,2-Trichloro-1,2,2-trifluoroethane	Organic	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Trichlorotrifluoroethane	Organic	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Trichlorphon	Organic	Trichlorfon	52-68-6
Tridiphane	Organic	Tridiphane	58138-08-2
Triethylamine	Organic	Triethylamine	121-44-8
Trifluralin	Organic	Trifluralin	1582-09-8
Triglycine	Organic	Nitrilotriacetic acid	139-13-9
Trihalomethanes (THM)	Organic	Bromodichloromethane	75-27-4
		Bromoform	75-25-2
		Chloroform	67-66-3
		Dibromochloromethane	124-48-1
Triiodomethane	Organic	Iodoform	75-47-8
Trilead phosphate	Inorganic	Lead phosphate	7446-27-7
Trimethylamine	Organic	Trimethylamine	75-50-3
1,2,4-Trimethylbenzene	Organic	1,2,4-Trimethylbenzene	95-63-6
1,3,5-Trimethylbenzene	Organic	1,3,5-Trimethylbenzene	108-67-8
asymmetrical-Trimethylbenzene	Organic	1,2,4-Trimethylbenzene	95-63-6
symmetrical-Trimethylbenzene	Organic	1,3,5-Trimethylbenzene	108-67-8
Trimethyl phosphate	Organic	Trimethyl phosphate	512-56-1
1,3,5-Trinitrobenzene	Organic	1,3,5-Trinitrobenzene	99-35-4
Trinitroglycerol	Organic	Trinitroglycerol	55-63-0
Trinitrophenol	Organic	Trinitrophenol	88-89-1
2,4,6-Trinitrotoluene (TNT)	Organic	2,4,6-Trinitrotoluene (TNT)	118-96-7
Tris(1-aziridinyl)phosphine sulfide	Organic	Tris(1-aziridinyl)phosphine sulfide	52-24-4
Tris(2,3-dibromopropyl)phosphate	Organic	Tris(2,3-dibromopropyl)phosphate	126-72-7
Trisodium nitrilotriacetate	Organic	Nitrilotriacetate, trisodium monohydrate	18662-53-8
Trithion	Organic	Trithion	786-19-6
Tritium	Inorganic	Tritium	10028-17-8
Tryptophan-P-1	Organic	Tryptophan-P-1	62450-06-0
Tryptophan-P-2	Organic	Tryptophan-P-2	62450-07-1
Turbacil	Organic	Terbacil	5902-51-2
Turbidity	Inorganic	Turbidity	

U

U	Inorganic	Uranium	7440-61-1
UDMH	Organic	1,1-Dimethylhydrazine	57-14-7
Uranium	Inorganic	Uranium	7440-61-1
Urethane	Organic	Urethane	51-79-6

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
	Urox	Organic	Bromacil	314-40-9
V	V	Inorganic	Vanadium	7440-62-2
	n-Valeraldehyde	Organic	n-Valeraldehyde	110-62-3
	Vanadium	Inorganic	Vanadium	7440-62-2
	Vapam	Organic	N-Methyl dithiocarbamate	137-42-8
	VC	Organic	Vinyl chloride	75-01-4
	Vegadex	Organic	Sulfallate	95-06-7
	Velpar	Organic	Hexazinone	51235-04-2
	Verdict	Organic	Haloxyfop-methyl	69806-40-2
	Vernam	Organic	Vernam	1929-77-7
	Vernolate	Organic	Vernam	1929-77-7
	Vinclozolin	Organic	Vinclozolin	50471-44-8
	Vinyl acetate	Organic	Vinyl acetate	108-05-4
	Vinylbenzene	Organic	Styrene	100-42-5
	Vinyl bromide	Organic	Vinyl bromide	593-60-2
	Vinyl chloride	Organic	Vinyl chloride	75-01-4
	Vinyl cyanide	Organic	Acrylonitrile	107-13-1
	Vinylethylene	Organic	1,3-Butadiene	106-99-0
	Vinylidene chloride	Organic	1,1-Dichloroethylene	75-35-4
	Vinyl toluene	Organic	Vinyl toluene	25013-15-4
	Vinyl trichoride	Organic	1,1,2-Trichloroethane	79-00-5
	Vitavax	Organic	Carboxin	5234-68-4
	Vorlex component	Organic	Methylisothiocyanate	556-61-6
	Vydate	Organic	Oxamyl	23135-22-0
W	Warfarin	Organic	Warfarin	81-81-2
	Waxes, chlorinated	Organic	Chlorinated paraffins	
	Wintomylon	Organic	Nalidixic acid	389-08-2
	Wipeout	Organic	Amdro	67485-29-4
X	m-Xylene	Organic	Xylene(s)	1330-20-7
	o-Xylene	Organic	Xylene(s)	1330-20-7
	p-Xylene	Organic	Xylene(s)	1330-20-7
	Xylene(s)	Organic	Xylene(s)	1330-20-7
	asymmetrical-m-Xylenol	Organic	2,4-Dimethylphenol	105-67-9
	2,4-Xylidine	Organic	2,4-Xylidine	1300-73-8
	2,6-Xylidine	Organic	2,6-Xylidine	87-62-7
Z	Zinc	Inorganic	Zinc	7440-66-6
	Zinc cyanide	Inorganic	Zinc cyanide	557-21-1
	Zinc phosphide	Inorganic	Zinc phosphide	1314-84-7
	Zineb	Organic	Zineb	12122-67-7
	Ziram	Organic	Ziram	137-30-4
	Zn	Inorganic	Zinc	7440-66-6

WATER QUALITY LIMITS
FOR
CONSTITUENTS AND PARAMETERS

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
A-alpha-C									
Acenaphthene									
Acenaphthylene									
Acephate									
Acetaldehyde									34 (126)
Acetamide									
Acetic acid									97000 (126)
Acetochlor									
Acetone									20000 (126)
Acetonitrile									300000 (126)
Acetophenone									
2-Acetylaminofluorene									
Acetylene									670 (126)
Acifluorfen									
Acrolein									110 (126)
Acrylamide	(105)		(105)		0 (185)				
Acrylic acid									
Acrylonitrile									9100 (126)
Actinomycin D									
AF-2									
Aflatoxins									
Alachlor	2		2		0 (185)	4 (188)			
Aldicarb			3 (148)		1 (148)		7 / 70 (191)		
Aldicarb sulfone			3 (148)		1 (148)				
Aldicarb sulfoxide			4 (148)		1 (148)				
Aldrin							0.002 / 0.2 (188,191)		
Alkalinity									
Ally									
Allyl alcohol									14000 (126)
Aluminum	1000	200		50 / 200 (30)		600		5000	
Aluminum phosphide									
Amdro									
Ametryn									
2-Aminoanthraquinone									
o-Aminoazotoluene									
4-Aminobiphenyl									
3-Amino-9-ethylcarbazole hydrochloride									
1-Amino-2-methylanthraquinone									
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole									
Amitraz									
Amitrole									
Ammonia									1500 (126)
Ammonium sulfamate									
n-Amyl acetate									37 (126)
Aniline									65000 (126)
o-Anisidine									
Anthracene									
Antimony	6		6		6	20			
Apollo									
Aramite									
Arsenic	50		10		0 (185)	0.004 (188)		100	
Arsine									0.35 (126)
Asbestos	7 MFL (101)		7 MFL (101)		7 MFL (101)	7 MFL (101,188)			
Assure									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
A-alpha-C				0.088				1 (188)	
Acenaphthene	420								
Acenaphthylene					(D)				
Acephate	2.8				4 (C)				
Acetaldehyde					(B2)			(188)	
Acetamide				0.5				5 (188)	
Acetic acid									
Acetochlor	140							35 (68,188)	
Acetone	6300				(D)				
Acetonitrile					(D)				
Acetophenone	700				(D)				
2-Acetylaminofluorene				0.0092				0.1 (188)	
Acetylene									
Acifluorfen	91	2000 (10-day)				1 (L/N)		10 (68,188)	
Acrolein	3.5				(D)				
Acrylamide	1.4	300 (10-day)		0.0078	0.008 (B2)	0.008 (B2,166)	0.024	0.1 (188)	
Acrylic acid	3500								
Acrylonitrile				0.035	0.06 (B1)	0.06 (B1)	0.38	0.35 (188)	
Actinomycin D				0.000004				0.00004 (188)	(189)
AF-2				0.15				1.5 (188)	
Aflatoxins								0.01 (68,188)	
Alachlor	70	100 (10-day)	700	0.63		0.4 (B2,167)		4.5 (68,188)	
Aldicarb	7	7	0.2 / 0.7 (7)		(D)	(D)	2.3 (21)		
Aldicarb sulfone	7	7			(D)	(D)			
Aldicarb sulfoxide		10 (10-day)				(D)			
Aldrin	0.21	0.3 (10-day)		0.0021	0.002 (B2)	0.002 (B2)	0.003	0.02 (188)	
Alkalinity									
Ally	1750								
Allyl alcohol	35			1.7	(C)				
Aluminum			5000 (7-day)						
Aluminum phosphide	2.8								
Amdro	2.1								60 (189)
Ametryn	63	60				(D)			
2-Aminoanthraquinone				1.1				10 (188)	
o-Aminoazotoluene				0.0092				0.1 (188)	
4-Aminobiphenyl				0.0017				0.015 (188)	
3-Amino-9-ethylcarbazole hydrochloride				0.45				4.5 (188)	
1-Amino-2-methylanthraquinone				0.23				2.5 (188)	
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole				0.0022				0.02 (188)	
Amitraz	18								(189)
Amitrole				0.037				0.35 (188)	
Ammonia		30000 (68)				(D,68)			
Ammonium sulfamate	1400	2000				(D)			
n-Amyl acetate									
Aniline				6.1	6 (B2)			50 (188)	
o-Anisidine				0.25 / 0.32 (174)				2.5 / 3.5 (174,188)	
Anthracene	2100				(D)	(D)			
Antimony	2.8	6				(D)			
Apollo	9.1				(C)				
Aramite				1.2	1 (B2)			10 (188)	
Arsenic	2.1			0.0037	0.02 (A)	0.02 (A,166)		5 (188)	0.05 (5,189)
Arsine									
Asbestos				(15)	(A)	7 MFL (A,101)		(15,188)	
Assure	63				(D)				

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
A-alpha-C									
Acenaphthene	1200	2700				2700			
Acenaphthylene									
Acephate									
Acetaldehyde									
Acetamide									
Acetic acid									
Acetochlor									
Acetone									
Acetonitrile									
Acetophenone									
2-Acetylaminofluorene									
Acetylene									
Acifluorfen									
Acrolein	320 (143)	780 (143)				780 (143)			
Acrylamide									
Acrylic acid									
Acrylonitrile	0.059 (113,143)	0.66 (113,143)				0.66 (113,143)			
Actinomycin D									
AF-2									
Aflatoxins									
Alachlor									
Aldicarb									
Aldicarb sulfone									
Aldicarb sulfoxide									
Aldrin	0.00013 (113,188)	0.00014 (113,188)			3	0.00014 (113,188)			1.3
Alkalinity									
Ally									
Allyl alcohol									
Aluminum									
Aluminum phosphide									
Amdro									
Ametryn									
2-Aminoanthraquinone									
o-Aminoazotoluene									
4-Aminobiphenyl									
3-Amino-9-ethylcarbazole hydrochloride									
1-Amino-2-methylanthraquinone									
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole									
Amitraz									
Amitrole									
Ammonia									
Ammonium sulfamate									
n-Amyl acetate									
Aniline									
o-Anisidine									
Anthracene	9600	110000				110000			
Antimony	14 (2)	4300 (2)				4300 (2)			
Apollo									
Aramite									
Arsenic			150 (1,142)	340 (1,142)			36 (1,142)	69 (1,142)	
Arsine									
Asbestos	7 MFL (101,143)								
Assure									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
A-alpha-C												
Acenaphthene	670	990			20					1700		520 (38)
Acenaphthylene												
Acephate												
Acetaldehyde												
Acetamide												
Acetic acid												
Acetochlor												
Acetone												
Acetonitrile												
Acetophenone												
2-Acetylaminofluorene												
Acetylene												
Acifluorfen												
Acrolein	190	290								68	21	
Acrylamide												
Acrylic acid												
Acrylonitrile			0.051 (188)	0.25 (188)						7550		2600 (17)
Actinomycin D												
AF-2												
Aflatoxins												
Alachlor									76 (8)			
Aldicarb												
Aldicarb sulfone												
Aldicarb sulfoxide												
Aldrin			0.000049 (188)	0.00005 (188)					3 (154)			
Alkalinity						20000 (9,51)						
Ally												
Allyl alcohol												
Aluminum						87 (2,62)		750 (2,62)				
Aluminum phosphide												
Amdro												
Ametryn												
2-Aminoanthraquinone												
o-Aminoazotoluene												
4-Aminobiphenyl												
3-Amino-9-ethylcarbazole hydrochloride												
1-Amino-2-methylanthraquinone												
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole												
Amitraz												
Amitrole												
Ammonia						see page 17		see page 17				
Ammonium sulfamate												
n-Amyl acetate												
Aniline						14 (68)		28 (68)				
o-Anisidine												
Anthracene	8300	40000										
Antimony	5.6 (2)	640 (2)								9000	1600	610 (38)
Apollo												
Aramite												
Arsenic			0.018 (2,94)	0.14 (2,94)		150 (1)		340 (1)				
Arsine												
Asbestos			7 MFL (101)									
Assure												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
A-alpha-C													
Acenaphthene											970	710	500 (38)
Acenaphthylene	0.0088 (33,188)										300 (52)		
Acephate													
Acetaldehyde													
Acetamide													
Acetic acid													
Acetochlor													
Acetone													
Acetonitrile													
Acetophenone													
2-Acetylaminofluorene													
Acetylene													
Acifluorfen													
Acrolein	220										55		
Acrylamide													
Acrylic acid													
Acrylonitrile	0.1 (188)												
Actinomycin D													
AF-2													
Aflatoxins													
Alachlor													
Aldicarb													
Aldicarb sulfone													
Aldicarb sulfoxide													
Aldrin	0.000022 (188)									1.3 (154)			
Alkalinity													
Ally													
Allyl alcohol													
Aluminum													
Aluminum phosphide													
Amdro													
Ametryn													
2-Aminoanthraquinone													
o-Aminoazotoluene													
4-Aminobiphenyl													
3-Amino-9-ethylcarbazole hydrochloride													
1-Amino-2-methylanthraquinone													
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole													
Amitraz													
Amitrole													
Ammonia		600 (89)			2400 (89)	6000 (89)	35 (112) see page 18		233 (112) see page 18				
Ammonium sulfamate													
n-Amyl acetate													
Aniline							37 (68)		77 (68)				
o-Anisidine													
Anthracene	0.0088 (33,188)										300 (52)		
Antimony	1200												
Apollo													
Aramite													
Arsenic		8			32	80	36 (1)		69 (1)				
Arsine													
Asbestos													
Assure													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
A-alpha-C	26148-68-5	2-Amino-9H-pyrido(2,3-b)indole	2-Amino-alpha-carboline	Glob-P-2
Acenaphthene	83-32-9	1,2-Dihydroacenaphthylene		[A Polynuclear aromatic hydrocarbon (PAH)]
Acenaphthylene	208-96-8			[A Polynuclear aromatic hydrocarbon (PAH)]
Acephate	30560-19-1			
Acetaldehyde	75-07-0	Ethanal		
Acetamide	60-35-5	Acetic acid amide	Ethanamide	Methanecarboxamide
Acetic acid	64-19-7			
Acetochlor	34256-82-1			
Acetone	67-64-1	Dimethylketone		
Acetonitrile	75-05-8	Ethyl nitrile	Cyanomethane	
Acetophenone	98-86-2	Phenylmethylketone		
2-Acetylaminofluorene	53-96-3	2-AAF	2-Acetaminofluorene	2-Fluorenylacetamide
Acetylene	74-86-2	Ethyne		
Acifluorfen	62476-59-9	Blazer		
Acrolein	107-02-8			
Acrylamide	79-06-1	2-Propeneamide		
Acrylic acid	79-10-7	2-Propenoic acid		
Acrylonitrile	107-13-1	2-Propenenitrile	Vinyl cyanide	Cyanoethylene
Actinomycin D	50-76-0	Dactinomycin		
AF-2	3688-53-7	2-(2-Furyl)-3-(5-nitro-2-furyl)acrylamide	Furylamide	
Aflatoxins	1402-68-2			
Alachlor	15972-60-8	Alochlor	Lasso	Alanex
Aldicarb	116-06-3	Temik		
Aldicarb sulfone	1646-88-4			
Aldicarb sulfoxide	1646-87-3			
Aldrin	309-00-2	1,4:5,8-Dimethanonaphthalene	Aldrosol	HHDN
Alkalinity				
Ally	74223-64-6	DPX 6376	Metasulfuron methyl ester	
Allyl alcohol	107-18-6	Propenyl alcohol		
Aluminum	7429-90-5	Al		
Aluminum phosphide	20859-73-8	Celphos	Phostoxin	
Amdro	67485-29-4	Hydramethylnon	Combat	Wipeout
Ametryn	834-12-8	Ametrex		
2-Aminoanthraquinone	117-79-3			
o-Aminoazotoluene	97-56-3	4'-Amino-2,3-dimethylazobenzene		
4-Aminobiphenyl	92-67-1	4-Aminodiphenyl	4-Biphenylamine	
3-Amino-9-ethylcarbazole hydrochloride	6109-97-3	Methallyl chloride		
1-Amino-2-methylanthraquinone	82-28-0	C.I. disperse orange 11	2-Methyl-1-anthraquinonylamine	
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	712-68-5	Furidiazine	Thriafur	
Amitraz	33089-61-1	Imidamide		
Amitrole	61-82-5	3-Amino-1,2,4-triazole		
Ammonia	7664-41-7	NH3	NH4+ (ammonium)	
Ammonium sulfamate	7773-06-0			
n-Amyl acetate	628-63-7			
Aniline	62-53-3	Aminobenzene	Benzamine	Phenylamine
o-Anisidine	90-04-0	o-Methoxyaniline	o-Aminoanisole	
Anthracene	120-12-7			[A Polynuclear aromatic hydrocarbon (PAH)]
Antimony	7440-36-0	Sb		
Apollo	74115-24-5	Bisclofentezine	Clofentezine	
Aramite	140-57-8	2-P(butylphenoxy)-1-methylethyl-2-chloroethyl sulfite	Aracide	
Arsenic	7440-38-2	As		
Arsine	7784-42-1	AsH3		
Asbestos	1332-21-4			
Assure	76578-14-8	Quinofop-ethyl	2-(4-((6-Chloro-2-quinoxalinyl)oxy)phenoxy)propanoic acid ethyl ester	Quizalofop-ethyl

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
Asulam									
Atrazine	1		3		3	0.15 (188)			
Auramine									
Avermectin B1									
Azaserine									
Azathioprine									
Azinphos-methyl									
Azobenzene									
Barium	1000		2000		2000	2000			
Baygon							30 / 300 (191)		
Bayleton									
Baythroid									
Benefin									
Benomyl									
Bentazon	18					200			
Benzaldehyde									
Benz(a)anthracene			0.1 (68)		0 (68,185)				
Benzene	1		5		0 (185)	0.15 (188)			170 (126)
Benzidine									
Benzo(b)fluoranthene									
Benzo(j)fluoranthene									
Benzo(k)fluoranthene									
Benzofuran									
Benzoic acid									
Benzo(g,h,i)perylene									
Benzo(a)pyrene	0.2		0.2		0 (185)	0.004 (188)			
Benzotrichloride									
Benzyl chloride									12 (126)
Benzyl violet 4B									
Beryllium	4		4		4	1		100	
Beryllium oxide									
Beryllium sulfate									
alpha-BHC							0.015 / 1.5 (188,191)		
beta-BHC							0.025 / 2.5 (188,191)		
gamma-BHC (Lindane)	0.2		0.2		0.2	0.032 (147,188)			
delta-BHC									
technical-BHC									
Biphenthrin									
1,1-Biphenyl									0.5 (126)
Bis(2-chloroethoxy) methane									
Bis(2-chloroethyl) ether									360 (126)
Bis(2-chloroisopropyl) ether									
Bis(chloromethyl) ether									
Bisphenol A									
Boron							1000 / 10000 (160,191)	700 / 750 (91)	
Bromacil									
Bromate	10		10		0 (185)				
Bromide									
Bromine									6.3 (126)
Bromoacetic acid	60 (106)		60 (106)						
Bromobenzene									
Bromochloromethane									34000 (126)
Bromodichloromethane	80 (19)		80 (19)		0 (185)				
Bromoform	80 (19)		80 (19)		0 (185)				510 (126)
Bromomethane									
4-Bromophenyl phenyl ether									
Bromoxynil									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
Asulam	350								
Atrazine	25	140 (N,168)	150	0.15		(C)			
Auramine				0.04				0.4 (188)	
Avermectin B1	2.8								
Azaserine				0.0032				0.03 (188)	
Azathioprine				0.019				0.2 (188)	(189)
Azinphos-methyl			87.5						
Azobenzene				0.32	0.3 (B2)			3 (188)	
Barium	1400	1400 (60,166)	4700		(D)	(N,166)			
Baygon	2.8	3				(C)		(188)	
Bayleton	210								
Baythroid	180								
Benefin	2100		700						
Benomyl	350								(189)
Bentazon	210	200			(E)	(E)			
Benzaldehyde	700								
Benz(a)anthracene				0.04 (93)	(B2)	(B2)		0.017 (188)	
Benzene	28	200 (10-day)		0.35	1 / 10 (A,30)	1 (H)		3.2 (188)	12 (189)
Benzidine	21			0.00007	0.0002 (A)			0.0005 (188)	
Benzo(b)fluoranthene				0.04 (93)	(B2)	(B2)		0.048 (188)	
Benzo(j)fluoranthene				0.04 (93)				0.055 (188)	
Benzo(k)fluoranthene				0.04 (93)	(B2)	(B2)		(188)	
Benzofuran								0.55 (188)	
Benzoic acid	28000				(D)				
Benzo(g,h,i)perylene					(D)	(D)			
Benzo(a)pyrene				0.0029	0.005 (B2)	0.005 (B2,166)		0.03 (188)	
Benzotrichloride					0.003 (B2,147)			0.025 (68,188)	
Benzyl chloride				0.21	0.2 (B2)			2 (188)	
Benzyl violet 4B				1.8				15 (188)	
Beryllium	14	30000 (10-day)			(B1,119)			(15,188)	
Beryllium oxide				0.005	(B2)			(15)	
Beryllium sulfate				0.000012				(15)	
alpha-BHC			500 (7-day,43)	0.013	0.006 (B2)		0.33	0.15 (188)	
beta-BHC			500 (7-day,43)	0.023	0.02 (C)		0.12	0.25 (188)	
gamma-BHC (Lindane)	0.2	3.5 (168)	500 (7-day,43)	0.032		(S)	0.054	0.3 (188)	
delta-BHC			500 (7-day,43)		(D)			(188)	
technical-BHC			500 (7-day)	0.0088	0.02 (B2)			0.1 (188)	
Biphenthrin	110								
1,1-Biphenyl	350				(D)				
Bis(2-chloroethoxy) methane					(D)				
Bis(2-chloroethyl) ether				0.014	0.03 (B2)		0.42	0.15 (188)	
Bis(2-chloroisopropyl) ether	280	300				(D)		(177,188)	
Bis(chloromethyl) ether				0.00076	0.00016 (A)			0.01 (188)	
Bisphenol A	350								
Boron	1400	1000 (166)			(I)	(I,166)			
Bromacil		70 (167)	87.5			(C)			(150,189)
Bromate	28 (147)	200 (24-hr,68)			0.05 (B2,147)	0.05 (B2,68)		(188)	
Bromide			2300						
Bromine									
Bromoacetic acid									
Bromobenzene	42 (68)	4000 (10-day,68)				(I,68)			
Bromochloromethane		90			(D)	(D)			
Bromodichloromethane	140	21 (60)		0.27	0.6 (B2)	1 (L)		2.5 (188)	
Bromoform	140	210 (60)			4 (B2)	8 (L)		32 (188)	
Bromomethane	9.8	10 (68)			(D)	(D,68)			500 (68,189)
4-Bromophenyl phenyl ether					(D)				
Bromoxynil	140								(189)

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
Asulam									
Atrazine									
Auramine									
Avermectin B1									
Azaserine									
Azathioprine									
Azinphos-methyl									
Azobenzene									
Barium									
Baygon									
Bayleton									
Baythroid									
Benefin									
Benomyl									
Bentazon									
Benzaldehyde									
Benz(a)anthracene	0.0044 (113,188)	0.049 (113,188)				0.049 (113,188)			
Benzene	1.2 (113,188)	71 (113,188)				71 (113,188)			
Benzidine	0.00012 (113,143)	0.00054 (113,143)				0.00054 (113,143)			
Benzo(b)fluoranthene	0.0044 (113,188)	0.049 (113,188)				0.049 (113,188)			
Benzo(j)fluoranthene									
Benzo(k)fluoranthene	0.0044 (113,188)	0.049 (113,188)				0.049 (113,188)			
Benzofuran									
Benzoic acid									
Benzo(g,h,i)perylene									
Benzo(a)pyrene	0.0044	0.049				0.049			
Benzotrichloride									
Benzyl chloride									
Benzyl violet 4B									
Beryllium									
Beryllium oxide									
Beryllium sulfate									
alpha-BHC	0.0039 (113,188)	0.013 (113,188)				0.013 (113,188)			
beta-BHC	0.014 (113,188)	0.046 (113,188)				0.046 (113,188)			
gamma-BHC (Lindane)	0.019 (113,188)	0.063 (113,188)		0.95		0.063 (113,188)			0.16
delta-BHC									
technical-BHC									
Biphenthrin									
1,1-Biphenyl									
Bis(2-chloroethoxy) methane									
Bis(2-chloroethyl) ether	0.031 (113,143)	1.4 (113,143)				1.4 (113,143)			
Bis(2-chloroisopropyl) ether	1400	170000 (143)				170000 (143)			
Bis(chloromethyl) ether									
Bisphenol A									
Boron									
Bromacil									
Bromate									
Bromide									
Bromine									
Bromoacetic acid									
Bromobenzene									
Bromochloromethane									
Bromodichloromethane	0.56 (113,188)	46 (113,188)				46 (113,188)			
Bromoform	4.3 (113,188)	360 (113,188)				360 (113,188)			
Bromomethane	48	4000				4000			
4-Bromophenyl phenyl ether									
Bromoxynil									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Asulam												
Atrazine						(68,178)		1500 (68,178)	1 (8)			
Auramine												
Avermectin B1												
Azaserine												
Azathioprine												
Azinphos-methyl									0.01 (51)			
Azobenzene												
Barium	1000 (51)											
Baygon												
Bayleton												
Baythroid												
Benefin												
Benomyl								8.8 (152)				
Bentazon												
Benzaldehyde												
Benz(a)anthracene			0.0038 (113)	0.018 (113)								
Benzene			2.2 (188)	51 (188)						5300		
Benzidine			0.000086 (188)	0.0002 (188)						2500		
Benzo(b)fluoranthene			0.0038 (113)	0.018 (113)								
Benzo(j)fluoranthene												
Benzo(k)fluoranthene			0.0038 (113)	0.018 (113)								
Benzofuran												
Benzoic acid												
Benzo(g,h,i)perylene												
Benzo(a)pyrene			0.0038 (113)	0.018 (113)								
Benzotrichloride												
Benzyl chloride												
Benzyl violet 4B												
Beryllium										130	5.3	
Beryllium oxide												
Beryllium sulfate												
alpha-BHC			0.0026 (188)	0.0049 (188)								
beta-BHC			0.0091 (188)	0.017 (188)								
gamma-BHC (Lindane)	0.98	1.8				0.08 (114)		0.95				
delta-BHC												
technical-BHC			0.0123	0.0414						100		
Biphenthrin												
1,1-Biphenyl												
Bis(2-chloroethoxy) methane												
Bis(2-chloroethyl) ether			0.03 (188)	0.53 (188)						238000 (46)	122 (58)	
Bis(2-chloroisopropyl) ether	1400	65000								238000 (46)	122 (58)	
Bis(chloromethyl) ether			0.0001 (188)	0.00029 (188)						238000 (46)	122 (58)	
Bisphenol A												
Boron												
Bromacil												
Bromate												
Bromide												
Bromine												
Bromoacetic acid												
Bromobenzene												
Bromochloromethane										11000 (20)		
Bromodichloromethane			0.55 (188)	17 (188)						11000 (20)		
Bromoform			4.3 (188)	140 (188)						11000 (20)		
Bromomethane	47	1500								11000 (20)		
4-Bromophenyl phenyl ether										360 (58)	122 (58)	
Bromoxynil												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Asulam													
Atrazine							17 (68,179)		760 (68)				
Auramine													
Avermectin B1													
Azaserine													
Azathioprine													
Azinphos-methyl										0.01 (51)			
Azobenzene													
Barium													
Baygon													
Bayleton													
Baythroid													
Benefin													
Benomyl													
Bentazon													
Benzaldehyde													
Benz(a)anthracene	0.0088 (33,188)										300 (52)		
Benzene	5.9 (188)										5100		700 (83)
Benzidine	0.000069 (188)												
Benzo(b)fluoranthene	0.0088 (33,188)										300 (52)		
Benzo(j)fluoranthene											300 (52)		
Benzo(k)fluoranthene	0.0088 (33,188)										300 (52)		
Benzofuran													
Benzoic acid													
Benzo(g,h,i)perylene	0.0088 (33,188)										300 (52)		
Benzo(a)pyrene	0.0088 (33,188)										300 (52)		
Benzotrichloride													
Benzyl chloride													
Benzyl violet 4B													
Beryllium	0.033 (188)												
Beryllium oxide													
Beryllium sulfate													
alpha-BHC		0.004 (43)			0.008 (43)	0.012 (43)							
beta-BHC		0.004 (43)			0.008 (43)	0.012 (43)							
gamma-BHC (Lindane)		0.004 (43)			0.008 (43)	0.012 (43)				0.16 (154)			
delta-BHC		0.004 (43)			0.008 (43)	0.012 (43)							
technical-BHC		0.004 (43)			0.008 (43)	0.012 (43)					0.34		
Biphenthrin													
1,1-Biphenyl													
Bis(2-chloroethoxy) methane	4.4												
Bis(2-chloroethyl) ether	0.045 (188)												
Bis(2-chloroisopropyl) ether	1200												
Bis(chloromethyl) ether													
Bisphenol A													
Boron													
Bromacil													
Bromate													
Bromide													
Bromine													
Bromoacetic acid													
Bromobenzene													
Bromochloromethane											12000 (20,`)	6400 (20)	11500 (20,82)
Bromodichloromethane	6.2 (188)										12000 (20)	6400 (20)	11500 (20,82)
Bromoform	130 (13,188)										12000 (20)	6400 (20)	11500 (20,82)
Bromomethane	130 (13,188)										12000 (20)	6400 (20)	11500 (20,82)
4-Bromophenyl phenyl ether													
Bromoxynil													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
Asulam	3337-71-1	Methyl ((4-aminophenyl)sulfonyl)carbamate		
Atrazine	1912-24-9	Aatrex	Atranex	Crisazina
Auramine	492-80-8	4,4-Dimethylaminobenzo-phenonimide		
Avermectin B1	65195-55-3	Abamectin		
Azaserine	115-02-6			
Azathioprine	446-86-6	Diphenyldiimide	Diphenyldiazene	Diazobenzene
Azinphos-methyl	86-50-0	Guthion		
Azobenzene	103-33-3	Diphenyldiimide		
Barium	7440-39-3	Ba		
Baygon	114-26-1	Propoxur		
Bayleton	43121-43-3			
Baythroid	68359-37-5	Cyfluthrin		
Benefin	1861-40-1	Balan	Benfluralin	
Benomyl	17804-35-2	Benlate	Arilate	
Bentazon	25057-89-0	Basagran		
Benzaldehyde	100-52-7			
Benz(a)anthracene	56-55-3	1,2-Benzanthracene	Benzo(a)anthracene	[A Polynuclear aromatic hydrocarbon (PAH)]
Benzene	71-43-2			
Benzidine	92-87-5	p-Diaminodiphenyl		
Benzo(b)fluoranthene	205-99-2	3,4-Benzofluoranthene		[A Polynuclear aromatic hydrocarbon (PAH)]
Benzo(j)fluoranthene	205-82-3	10,11-Benzofluoranthene		[A Polynuclear aromatic hydrocarbon (PAH)]
Benzo(k)fluoranthene	207-08-9	8,9-Benzofluoranthene		[A Polynuclear aromatic hydrocarbon (PAH)]
Benzofuran	271-89-6			
Benzoic acid	65-85-0	Carboxybenzene		
Benzo(g,h,i)perylene	191-24-2	1,12-Benzoperylene		[A Polynuclear aromatic hydrocarbon (PAH)]
Benzo(a)pyrene	50-32-8	BaP	3,4-Benzopyrene	[A Polynuclear aromatic hydrocarbon (PAH)]
Benzotrichloride	98-07-7	(Trichloromethyl)benzene	alpha,alpha,alpha-Trichlorotoluene	
Benzyl chloride	100-44-7	alpha-Chlorotoluene	Chlorophenylmethane	Tolyl chloride
Benzyl violet 4B	1694-09-3			
Beryllium	7440-41-7	Be		
Beryllium oxide	1304-56-9			
Beryllium sulfate	13510-49-1			
alpha-BHC	319-84-6	alpha-Benzene hexachloride	alpha-Hexachlorocyclohexane	alpha-HCH
beta-BHC	319-85-7	beta-Benzene hexachloride	beta-Hexachlorocyclohexane	beta-HCH
gamma-BHC (Lindane)	58-89-9	Lindane	gamma-Benzene hexachloride	gamma-Hexachlorocyclohexane
delta-BHC	319-86-8	delta-Benzene hexachloride	delta-Hexachlorocyclohexane	delta-HCH
technical-BHC	608-73-1	technical-Benzene hexachloride	technical-Hexachlorocyclohexane	
Biphenthrin	82657-04-3	Brigade	Talstar	Bifenthrin
1,1-Biphenyl	92-52-4	Diphenyl	Phenylbenzene	
Bis(2-chloroethoxy) methane	111-91-1	Dichloroethyl formal	Dichlorodiethyl formal	
Bis(2-chloroethyl) ether	111-44-4	BCEE	2,2'-Dichlorodiethyl ether	symmetrical-Dichloroethyl ether
Bis(2-chloroisopropyl) ether	108-60-1	Bis(2-chloro-1-methylethyl) ether	2,2'-Oxybis(1-chloropropane)	BCIE
Bis(chloromethyl) ether	542-88-1	BCME	Dichlorodimethyl ether	Chloromethyl ether
Bisphenol A	80-05-7	Bis(4-hydroxyphenyl)propane		
Boron	7440-42-8	B		
Bromacil	314-40-9	Hyvar X or XL	Urox	
Bromate	15541-45-4			
Bromide	24959-67-9	Br-		
Bromine	7726-95-6			
Bromoacetic acid	79-08-3	[A Haloacetic acid]		
Bromobenzene	108-86-1	Phenyl bromide		
Bromochloromethane	74-97-5	Chlorobromomethane		
Bromodichloromethane	75-27-4	Dichlorobromomethane	BDCM	[A Trihalomethane (THM)]
Bromoform	75-25-2	Tribromomethane		[A Trihalomethane (THM)]
Bromomethane	74-83-9	Methyl bromide		
4-Bromophenyl phenyl ether	101-55-3	p-Bromodiphenyl ether		
Bromoxynil	1689-84-5	2,6-Dibromo-4-cyanophenol	3,5-Dibromo-4-hydroxybenzonitrile	

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
Bromoxynil octanoate									
Butachlor									
1,3-Butadiene									1.4 (126)
Butane									170 (126)
n-Butanol									7100 (126)
n-Butyl acetate									170 (126)
n-Butyl acrylate									7.8 (126)
sec-Butyl alcohol									19000 (126)
tert-Butyl alcohol							12 / 1200 (188,191)		290000 (126)
n-Butylamine									6200 (126)
Butylate									
Butylated hydroxyanisole									
n-Butylbenzene							260 / 2600 (191)		
sec-Butylbenzene							260 / 2600 (191)		
tert-Butylbenzene							260 / 2600 (191)		
n-Butyl benzyl phthalate									
n-Butyl lactate									520000 (126)
n-Butyl mercaptan									0.012 (126)
Butylphthalyl butylglycolate									
p-tert-Butyltoluene									32 (126)
beta-Butyrolactone									
Cadmium	5		5		5	0.04		10	
Calcium cyanide									
Camphor									1000 (126)
Caprolactam									
Captafol									
Captan							15 / 1500 (188,191)		
Carbaryl							700 / 7000 (191)		
Carbazole									
Carbofuran	18		40		40	1.7 (189)			
Carbon disulfide							160 / 1600 (191)		0.39 (126)
Carbon tetrachloride	0.5		5		0 (185)	0.1 (188)			520 (125,126)
Carbosulfan									
Carboxin									
N-Carboxymethyl-N-nitrosourea									
Catechol									
Chloral hydrate					40				
Chloramben									
Chlorambucil									
Chloramine	4000 (175)		4000 (66)		4000 (66)				
Chlorate							0.8 / 8 (191)		
Chlordane	0.1		2		0 (185)	0.03 (147,188)			
Chlordimeform									
Chlorendic acid									
Chloride		250000 (73)		250000				106000	
Chlorimuron-ethyl									
Chlorinated paraffins									
Chlorinated benzenes									
Chlorinated naphthalenes									
Chlorinated phenols									
Chlorine	4000 (175)		4000 (66)		4000 (66)				2 (126)
Chlorine dioxide	800 (176)		800 (67)		800 (67)				670 (126)
Chlorite	1000		1000		800	10 (68)			
Chloroacetic acid	60 (106)		60 (106)		30				
Chloroalkyl ethers									
p-Chloroaniline									
Chlorobenzene	70		100		100	200			50 (126)

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
Bromoxynil octanoate	140								(189)
Butachlor			70						
1,3-Butadiene				0.01	(A,183)			0.2 (188)	(189)
Butane									
n-Butanol	700				(D)				
n-Butyl acetate									
n-Butyl acrylate									
sec-Butyl alcohol									
tert-Butyl alcohol									
n-Butylamine									
Butylate	350	400				(D)			
Butylated hydroxyanisole				180				2000 (188)	
n-Butylbenzene									
sec-Butylbenzene									
tert-Butylbenzene									
n-Butyl benzyl phthalate	140				(C)	(C)			(189)
n-Butyl lactate									
n-Butyl mercaptan									
Butylphthalyl butylglycolate	7000 (147)								
p-tert-Butyltoluene									
beta-Butyrolactone				0.035				0.35 (188)	
Cadmium	3.5	5	5		(B1,119)	(D)		(15,188)	2.05 (189)
Calcium cyanide	280								
Camphor									
Caprolactam	3500								
Captafol	1.4			0.23		(C)		2.5 (188)	
Captan	910		350	15				150 (188)	
Carbaryl	700	70 (168)	574			40 (L,167)			
Carbazole								2.05 (188)	
Carbofuran	35	0.4 (168)				(N)			
Carbon disulfide	700								300 (68,189)
Carbon tetrachloride	4.9	200 (10-day)	200 (7-day)	0.23	0.3 (B2)	0.3 (B2)	4.5	2.5 (188)	
Carbosulfan	70								
Carboxin	700	700				(D)			
N-Carboxymethyl-N-nitrosourea								0.35 (188)	
Catechol			2200 (24-hr)					(188)	
Chloral hydrate	70	60			(C)	(C)			
Chloramben	110	100	1750			(D)			
Chlorambucil				15				0.001 (188)	(189)
Chloramine	700 (147)	3000 (68,169)	166 / 581 (7)		(D)				
Chlorate		(D)	7 / 24 (7)						
Chlordane	3.5	60 (10-day)		0.027	0.1 (B2)	0.1 (B2,166)	0.028	0.25 (188)	
Chlordimeform								0.25 (68,188)	
Chlorendic acid				0.38				4 (188)	
Chloride									
Chlorimuron-ethyl	140								
Chlorinated paraffins				0.39 (63)				4 (63,188)	
Chlorinated benzenes									
Chlorinated naphthalenes									
Chlorinated phenols									
Chlorine	700	4000 (68)				(D,68)			
Chlorine dioxide	210	800 (68)	60 / 210 (7)		(D)	(D,68)			
Chlorite	210	800 (68)	7 / 24 (7)		(D)	(D,68)			
Chloroacetic acid		70				(I)			
Chloroalkyl ethers									
p-Chloroaniline	28							(188)	
Chlorobenzene	140	100 (166)			(D)	(D)	2.3 (21)		

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
Bromoxynil octanoate									
Butachlor									
1,3-Butadiene									
Butane									
n-Butanol									
n-Butyl acetate									
n-Butyl acrylate									
sec-Butyl alcohol									
tert-Butyl alcohol									
n-Butylamine									
Butylate									
Butylated hydroxyanisole									
n-Butylbenzene									
sec-Butylbenzene									
tert-Butylbenzene									
n-Butyl benzyl phthalate	3000	5200				5200			
n-Butyl lactate									
n-Butyl mercaptan									
Butylphthalyl butylglycolate									
p-tert-Butyltoluene									
beta-Butyrolactone									
Cadmium			see page 19 (1,142)	see page 19 (1,142)			9.3 (1,142)	42 (1,142)	
Calcium cyanide									
Camphor									
Caprolactam									
Captafol									
Captan									
Carbaryl									
Carbazole									
Carbofuran									
Carbon disulfide									
Carbon tetrachloride	0.25 (113,143)	4.4 (113,143)				4.4 (113,143)			
Carbosulfan									
Carboxin									
N-Carboxymethyl-N-nitrosourea									
Catechol									
Chloral hydrate									
Chloramben									
Chlorambucil									
Chloramine									
Chlorate									
Chlordane	0.00057 (113,188)	0.00059 (113,188)	0.0043 (114)		2.4	0.00059 (113,188)	0.004 (114)		0.09
Chlordimeform									
Chlorendic acid									
Chloride									
Chlorimuron-ethyl									
Chlorinated paraffins									
Chlorinated benzenes									
Chlorinated naphthalenes									
Chlorinated phenols									
Chlorine									
Chlorine dioxide									
Chlorite									
Chloroacetic acid									
Chloroalkyl ethers									
p-Chloroaniline									
Chlorobenzene	680 (143)	21000 (143)				21000 (143)			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Bromoxynil octanoate												
Butachlor												
1,3-Butadiene												
Butane												
n-Butanol												
n-Butyl acetate												
n-Butyl acrylate												
sec-Butyl alcohol												
tert-Butyl alcohol												
n-Butylamine												
Butylate												
Butylated hydroxyanisole												
n-Butylbenzene												
sec-Butylbenzene												
tert-Butylbenzene												
n-Butyl benzyl phthalate	1500	1900								940 (45)	3 (45)	
n-Butyl lactate												
n-Butyl mercaptan												
Butylphthalyl butylglycolate	16800 (68)	32400 (68)								940 (45)	3 (45)	
p-tert-Butyltoluene												
beta-Butyrolactone												
Cadmium						see page 20 (1)	see page 20 (1)					
Calcium cyanide												
Camphor												
Caprolactam												
Captafol												
Captan												
Carbaryl						2.53 (151)		2.53 (151)	0.02 (54)			
Carbazole												
Carbofuran									0.5 (152)			
Carbon disulfide												
Carbon tetrachloride			0.23 (188)	1.6 (188)						35200		
Carbosulfan												
Carboxin												
N-Carboxymethyl-N-nitrosourea												
Catechol												
Chloral hydrate												
Chloramben												
Chlorambucil												
Chloramine												
Chlorate												
Chlordane			0.0008 (188)	0.00081 (188)		0.0043 (114)			2.4 (154)			
Chlordimeform												
Chlorendic acid												
Chloride						230000 (4)		860000 (4)				
Chlorimuron-ethyl												
Chlorinated paraffins												
Chlorinated benzenes										250		50 (23)
Chlorinated naphthalenes										1600		
Chlorinated phenols												
Chlorine						11 (98)		19 (98)				
Chlorine dioxide												
Chlorite												
Chloroacetic acid												
Chloroalkyl ethers										238000	122 (58)	
p-Chloroaniline												
Chlorobenzene	130	1600			20					250 (22)		50 (22,23)

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Bromoxynil octanoate													
Butachlor													
1,3-Butadiene													
Butane													
n-Butanol													
n-Butyl acetate													
n-Butyl acrylate													
sec-Butyl alcohol													
tert-Butyl alcohol													
n-Butylamine													
Butylate													
Butylated hydroxyanisole													
n-Butylbenzene													
sec-Butylbenzene													
tert-Butylbenzene													
n-Butyl benzyl phthalate											2944 (45)		3.4 (38,45)
n-Butyl lactate													
n-Butyl mercaptan													
Butylphthalyl butylglycolate											2944 (45)		3.4 (38,45)
p-tert-Butyltoluene													
beta-Butyrolactone													
Cadmium		1			4	10	8.8 (1)	40 (1)					
Calcium cyanide													
Camphor													
Caprolactam													
Captafol													
Captan													
Carbaryl							0.81 (151)		0.81 (151)				
Carbazole													
Carbofuran													
Carbon disulfide													
Carbon tetrachloride	0.9 (188)										50000	6400 (20)	11500 (20,82)
Carbosulfan													
Carboxin													
N-Carboxymethyl-N-nitrosourea													
Catechol		30 (86)			120 (86)	300 (86)							
Chloral hydrate													
Chloramben													
Chlorambucil													
Chloramine													
Chlorate													
Chlordane	0.000023 (81,188)						0.004 (114)			0.09 (154)			
Chlordimeform													
Chlorendic acid													
Chloride													
Chlorimuron-ethyl													
Chlorinated paraffins													
Chlorinated benzenes											160	129	
Chlorinated naphthalenes											7.5		
Chlorinated phenols		1			4	10							
Chlorine		2 (90)			8 (90)	60 (90)	7.5 (99)		13 (99)				
Chlorine dioxide													
Chlorite													
Chloroacetic acid													
Chloroalkyl ethers													
p-Chloroaniline													
Chlorobenzene	570										160 (22)	129 (22)	

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
Bromoxynil octanoate	1689-99-2			
Butachlor	23184-66-9	Butanex	Lambast	
1,3-Butadiene	106-99-0	Vinylethylene	Bivinyl	Divinyl
Butane	106-97-8			
n-Butanol	71-36-3	n-Butyl alcohol		
n-Butyl acetate	123-86-4			
n-Butyl acrylate	141-32-2			
sec-Butyl alcohol	78-92-2	sec-Butanol	2-Butanol	
tert-Butyl alcohol	75-65-0	t-Butyl alcohol	t-Butanol	TBA
n-Butylamine	109-73-9	1-Aminobutane		
Butylate	2008-41-5	Sutan		
Butylated hydroxyanisole	25013-16-5	BHA	Antioxyne B	
n-Butylbenzene	104-51-8	1-Phenylbutane		
sec-Butylbenzene	135-98-8	2-Phenylbutane		
tert-Butylbenzene	98-06-6	2-Methyl-2-phenylpropane		
n-Butyl benzyl phthalate	85-68-7	Benzyl butyl phthalate	[A phthalate acid ester (PAE)]	
n-Butyl lactate	138-22-7			
n-Butyl mercaptan	109-79-5	1-Butanethiol		
Butylphthalyl butylglycolate	85-70-1	BPBG	Butyl glycolyl butyl phthalate	[A phthalate acid ester (PAE)]
p-tert-Butyltoluene	98-51-1	1-Methyl-4-tert-butylbenzene		
beta-Butyrolactone	96-48-0	3-Hydroxybutyric acid		
Cadmium	7440-43-9	Cd		
Calcium cyanide	592-01-8			
Camphor	464-49-3	2-Camphanone		
Caprolactam	105-60-2	1,6-Hexolactam		
Captafol	2425-06-1	Difolatan	Sulfonimide	
Captan	133-06-2	Orthocide	N-Trichloromethylmercapto-tetrahydrophthalimide	
Carbaryl	63-25-2	Sevin		
Carbazole	86-74-8	9-Azafluorene	Diphenyleneimine	Dibenzopyrrole
Carbofuran	1563-66-2	Furadan		
Carbon disulfide	75-15-0	Carbon bisulfide	CS2	
Carbon tetrachloride	56-23-5	Tetrachloromethane	Freon 10	
Carbosulfan	55285-14-8	Advantage		
Carboxin	5234-68-4	Carboxine	Carbathiin	Vitavax
N-Carboxymethyl-N-nitrosourea	60391-92-6	Nitrosohydantoic acid		
Catechol	120-80-9			
Chloral hydrate	302-17-0	Trichloroacetaldehyde, hydrated	Trichloroethylidene ghycol	1,1,1-Trichloro-2,2-ethanediol
Chloramben	133-90-4	Amiben		
Chlorambucil	305-03-3			
Chloramine	127-65-1	NH2Cl	Monochloramine	
Chlorate	14866-68-3	ClO3-		
Chlordane	57-74-9	Chlordan		
Chlordimeform	6164-98-3			
Chlorendic acid	115-28-6			
Chloride	16887-00-6	Cl-		
Chlorimuron-ethyl	90982-32-4			
Chlorinated paraffins		Paraffins, chlorinated	Chlorinated waxes	Waxes, chlorinated
Chlorinated benzenes		Benzenes, chlorinated		
Chlorinated naphthalenes	25586-43-0	Naphthalenes, chlorinated		
Chlorinated phenols		Phenols, chlorinated		
Chlorine	7782-50-5	Cl2		
Chlorine dioxide	10049-04-4	ClO2		
Chlorite	7758-19-2	ClO2-		
Chloroacetic acid	79-11-8	Monochloroacetic acid	[A Haloacetic acid]	
Chloroalkyl ethers		Ethers, chloroalkyl-		
p-Chloroaniline	106-47-8	1-Amino-4-chlorobenzene	4-Chloroaniline	
Chlorobenzene	108-90-7	Monochlorobenzene		

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
4-Chloro-m-cresol									
4-Chloro-o-cresol									
6-Chloro-m-cresol									
Chloroethane									16 (126)
Chloroform	80 (19)		80 (19)		70				2400 (126)
Chloromethane									
Chloromethyl methyl ether									
3-Chloro-2-methylpropene									
2-Chloronaphthalene									
2-Chlorophenol									
3-Chlorophenol									
4-Chlorophenol									
4-Chloro-o-phenylenediamine									
Chloropicrin							50 / 500 (191)		37 (126)
beta-Chloroprene									24 (126)
3-Chloropropene									8.9 (126)
Chlorothalonil									
2-Chlorotoluene							140 / 1400 (191)		6.9 (126)
4-Chlorotoluene							140 / 1400 (191)		
p-Chloro-o-toluidine									
Chlorozotocin									
Chlorpropham							1200 / 12000 (191)		
Chlorpyrifos									
Chlorsulfuron									
Chromium (III)									
Chromium (VI)								100	
Chromium (total)	50		100		100	(134)			
Chrysene									
C. I. Basic Red 9 monohydrochloride									
Cinnamyl anthranilate									
Cobalt								50	
Color		15 units		15 units					
Copper	1300 (111)	1000	1300 (111)	1000	1300	170 / 300 (68)		200	
Copper cyanide									
Corrosivity				(184)					
p-Cresidine									
m-Cresol									37 (126)
o-Cresol									
p-Cresol									
trans-Crotonaldehyde									420 (126)
Cumene							770 / 7700 (191)		0.8 (126)
Cupferron									
Cyanazine									
Cyanide	150		200 (137)		200 (137)	150			170 (126)
Cyanogen									
Cyanogen bromide									
Cyanogen chloride									
Cyclohexane									11 (126)
Cyclohexanol									2800 (126)
Cyclohexanone									8300 (126)
Cyclohexene									0.39 (126)
Cyclohexylamine									25000 (126)
Cyclopentadiene									6 (126)
Cyclophosphamide									
Cyhalothrin									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
4-Chloro-m-cresol									
4-Chloro-o-cresol									
6-Chloro-m-cresol									
Chloroethane						(B)		75 (188)	
Chloroform	70 (108)	70 (108,166)		1.1	(B2,108)	(L/N,166)	0.26 / 5.6 (44)	10 (188)	
Chloromethane		3			(D)	(D,166)			
Chloromethyl methyl ether				0.015 (177)	(A,198)			0.15 (177,188)	
3-Chloro-2-methylpropene				0.25				2.5 (188)	
2-Chloronaphthalene	560 (147)								
2-Chlorophenol	35	40 (68)				(D,68)			
3-Chlorophenol									
4-Chlorophenol									
4-Chloro-o-phenylenediamine				2.2				20 (188)	
Chloropicrin			12 / 40 (7)						
beta-Chloroprene					(B1,68)			(188)	
3-Chloropropene				1.7	(C)				
Chlorothalonil	110	200 (10-day)		11		1.5 (B2)		100 (188)	
2-Chlorotoluene	140	100				(D)			
4-Chlorotoluene		100				(D)			
p-Chloro-o-toluidine				0.13				1.5 / 1.65 (174,188)	
Chlorozotocin				0.00015				0.0015 (188)	
Chlorpropham	1200								
Chlorpyrifos	21	2 (167)				(D)			
Chlorsulfuron	350								(189)
Chromium (III)	10500				(D)				
Chromium (VI)	21 (201)	21 (166,201)		(134)	(D,155)			(15,188)	
Chromium (total)		1000 (10-day)				(D)			
Chrysene				0.4 (93)	(B2)	(B2)		0.18 (188)	
C. I. Basic Red 9 monohydrochloride				0.00015				1.5 (188)	
Cinnamyl anthranilate				7.6				100 (188)	
Cobalt									
Color									
Copper					(D)	(D,68)			
Copper cyanide	35 (147)								
Corrosivity									
p-Cresidine				0.23				2.5 (188)	
m-Cresol	35				(C)				
o-Cresol	35				(C)				
p-Cresol					(C)				
trans-Crotonaldehyde					(C)				
Cumene	700	11000 (10-day,68)			(D)	(D,68)			
Cupferron				0.16				1.5 (188)	
Cyanazine		1 (68)				(C,68)			(189)
Cyanide	140	200			(D)	(D)			
Cyanogen	280								
Cyanogen bromide	630 (147)								
Cyanogen chloride	350 (147)	50 (10-day)				(D)			
Cyclohexane					(D)				
Cyclohexanol									
Cyclohexanone	35000								
Cyclohexene									
Cyclohexylamine	1400								
Cyclopentadiene									
Cyclophosphamide				0.061				0.5 (188)	(189)
Cyhalothrin	35								

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average)	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
4-Chloro-m-cresol									
4-Chloro-o-cresol									
6-Chloro-m-cresol									
Chloroethane									
Chloroform									
Chloromethane									
Chloromethyl methyl ether									
3-Chloro-2-methylpropene									
2-Chloronaphthalene	1700	4300				4300			
2-Chlorophenol	120	400				400			
3-Chlorophenol									
4-Chlorophenol									
4-Chloro-o-phenylenediamine									
Chloropicrin									
beta-Chloroprene									
3-Chloropropene									
Chlorothalonil									
2-Chlorotoluene									
4-Chlorotoluene									
p-Chloro-o-toluidine									
Chlorozotocin									
Chlorpropham									
Chlorpyrifos									
Chlorsulfuron									
Chromium (III)			see page 21 (1,143)	see page 21 (1,143)					
Chromium (VI)			11 (1,142)	16 (1,142)			50 (1,142)	1100 (1,142)	
Chromium (total)									
Chrysene	0.0044 (113,188)	0.049 (113,188)				0.049 (113,188)			
C. I. Basic Red 9 monohydrochloride									
Cinnamyl anthranilate									
Cobalt									
Color									
Copper	1300 (2,142)		see page 23 (1,142)	see page 23 (1,142)			3.1 (1,142)	4.8 (1,142)	
Copper cyanide									
Corrosivity									
p-Cresidine									
m-Cresol									
o-Cresol									
p-Cresol									
trans-Crotonaldehyde									
Cumene									
Cupferron									
Cyanazine									
Cyanide	700 (142)	220000 (142)	5.2 (142,143)	22 (142,143)		220000 (142)	1 (142,143)	1 (142,143)	
Cyanogen									
Cyanogen bromide									
Cyanogen chloride									
Cyclohexane									
Cyclohexanol									
Cyclohexanone									
Cyclohexene									
Cyclohexylamine									
Cyclopentadiene									
Cyclophosphamide									
Cyhalothrin									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
4-Chloro-m-cresol					3000					30		
4-Chloro-o-cresol					1800							
6-Chloro-m-cresol					20							
Chloroethane												
Chloroform	68 (68,108)	2400 (68,108)	5.7 (188)	470 (188)						28900	1240	
Chloromethane										11000 (20)		
Chloromethyl methyl ether										238000 (46)	122 (58)	
3-Chloro-2-methylpropene												
2-Chloronaphthalene	1000	1600								1600 (48)		
2-Chlorophenol	81	150			0.1					4380		2000 (34)
3-Chlorophenol					0.1							
4-Chlorophenol					0.1							
4-Chloro-o-phenylenediamine												
Chloropicrin												
beta-Chloroprene												
3-Chloropropene												
Chlorothalonil												
2-Chlorotoluene												
4-Chlorotoluene												
p-Chloro-o-toluidine												
Chlorozotocin												
Chlorpropham												
Chlorpyrifos						0.014 / 0.041 (151)		0.02 / 0.083 (151)				
Chlorsulfuron												
Chromium (III)						see page 22 (1)		see page 22 (1)				
Chromium (VI)						11 (1)		16 (1)				
Chromium (total)												
Chrysene			0.0038 (113)	0.018 (113)								
C. I. Basic Red 9 monohydrochloride												
Cinnamyl anthranilate												
Cobalt												
Color					(51,130)				(51,131)			
Copper	1300				1000	(180)		(180)				
Copper cyanide												
Corrosivity												
p-Cresidine												
m-Cresol												
o-Cresol												
p-Cresol												
trans-Crotonaldehyde												
Cumene												
Cupferron												
Cyanazine												
Cyanide	140 (181)	140 (181)				5.2 (137)		22 (137)				
Cyanogen												
Cyanogen bromide												
Cyanogen chloride												
Cyclohexane												
Cyclohexanol												
Cyclohexanone												
Cyclohexene												
Cyclohexylamine												
Cyclopentadiene												
Cyclophosphamide												
Cyhalothrin												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
4-Chloro-m-cresol		1 (87)			4 (87)	10 (87)							
4-Chloro-o-cresol		1 (87)			4 (87)	10 (87)							
6-Chloro-m-cresol		1 (87)			4 (87)	10 (87)							
Chloroethane													
Chloroform	130 (188)										12000 (20)	6400 (20)	11500 (20,82)
Chloromethane	130 (13,188)										12000 (20)	6400 (20)	11500 (20,82)
Chloromethyl methyl ether													
3-Chloro-2-methylpropene													
2-Chloronaphthalene											7.5 (48)		
2-Chlorophenol		1 (87)			4 (87)	10 (87)							
3-Chlorophenol		1 (87)			4 (87)	10 (87)							
4-Chlorophenol		1 (87)			4 (87)	10 (87)					29700		
4-Chloro-o-phenylenediamine													
Chloropicrin													
beta-Chloroprene													
3-Chloropropene													
Chlorothalonil													
2-Chlorotoluene													
4-Chlorotoluene													
p-Chloro-o-toluidine													
Chlorozotocin													
Chlorpropham													
Chlorpyrifos							0.009 / 0.0056 (151)		0.02 / 0.011 (151)				
Chlorsulfuron													
Chromium (III)	190000										10300 (96)		
Chromium (VI)		2 (12)			8 (12)	20 (12)	50 (1)		1100 (1)				
Chromium (total)		2 (12)			8 (12)	20 (12)							
Chrysene	0.0088 (33,188)										300 (52)		
C. I. Basic Red 9 monohydrochloride													
Cinnamyl anthranilate													
Cobalt													
Color										(51,131)			
Copper		3			12	30	3.1 / 1.9 (1,68)	3.1 (1,68)	4.8 (1)				
Copper cyanide													
Corrosivity													
p-Cresidine													
m-Cresol		30 (86)			120 (86)	300 (86)							
o-Cresol		30 (86)			120 (86)	300 (86)							
p-Cresol		30 (86)			120 (86)	300 (86)							
trans-Crotonaldehyde													
Cumene													
Cupferron													
Cyanazine													
Cyanide		1			4	10	1 (137)		1 (137)				
Cyanogen													
Cyanogen bromide													
Cyanogen chloride													
Cyclohexane													
Cyclohexanol													
Cyclohexanone													
Cyclohexene													
Cyclohexylamine													
Cyclopentadiene													
Cyclophosphamide													
Cyhalothrin													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
4-Chloro-m-cresol	59-50-7	4-Chloro-3-methylphenol	p-Chloro-m-cresol	3-Methyl-4-chlorophenol
4-Chloro-o-cresol	1570-64-5	4-Chloro-2-methylphenol	p-Chloro-o-cresol	2-Methyl-4-chlorophenol
6-Chloro-m-cresol	615-74-7	6-Chloro-3-methylphenol	3-Methyl-6-chlorophenol	2-Chloro-5-methylphenol
Chloroethane	75-00-3	Ethyl chloride		
Chloroform	67-66-3	Trichloromethane	Freon 20	[A Trihalomethane (THM)]
Chloromethane	74-87-3	Methyl chloride		
Chloromethyl methyl ether	107-30-2	CMME	Methylchloromethyl ether	Chloromethoxymethane
3-Chloro-2-methylpropene	563-47-3	3-Chloroisobutylene		
2-Chloronaphthalene	91-58-7	beta-Chloronaphthalene		
2-Chlorophenol	95-57-8	o-Chlorophenol		
3-Chlorophenol	108-43-0	m-Chlorophenol		
4-Chlorophenol	106-48-9	p-Chlorophenol		
4-Chloro-o-phenylenediamine	95-83-0	1-Chloro-3,4-diaminobenzene		
Chloropicrin	76-06-2			
beta-Chloroprene	126-99-8	2-Chlorobutadiene-1,3		
3-Chloropropene	107-05-1	Allyl chloride	2-Propenyl chloride	
Chlorothalonil	1897-45-6	Bravo	Daconil	
2-Chlorotoluene	95-49-8	o-Chlorotoluene		
4-Chlorotoluene	106-43-4	p-Chlorotoluene		
p-Chloro-o-toluidine	95-69-2			
Chlorozotocin	54749-90-5	Glucopyranose		
Chlorpropham	101-21-3	CIPC	Chloro-IPC	Isopropyl-N-(3-chlorophenyl)carbamate
Chlorpyrifos	2921-88-2	Dursban	Lorsban	
Chlorsulfuron	64902-72-3	Sulfonamide	Glean	
Chromium (III)	16065-83-1	Cr (III)	Chromium, trivalent	
Chromium (VI)	18540-29-9	Cr (VI)	Chromium, hexavalent	
Chromium (total)	7440-47-3	Cr (total)		
Chrysene	218-01-9			[A Polynuclear aromatic hydrocarbon (PAH)]
C. I. Basic Red 9 monohydrochloride	569-61-9	Basic parafuchsine		
Cinnamyl anthranilate	87-29-6			
Cobalt	7440-48-4	Co		
Color				
Copper	7440-50-8	Cu		
Copper cyanide	544-92-3	Cupricin	Cuprous cyanide	Cyanide, copper
Corrosivity				
p-Cresidine	120-71-8	2-Methyoxy-5-Methylaniline	5-Methyl-o-anisidine	
m-Cresol	108-39-4	3-Methylphenol		
o-Cresol	95-48-7	2-Methylphenol		
p-Cresol	106-44-5	4-Methylphenol		
trans-Crotonaldehyde	4170-30-3	trans-2-Butenal	beta-Methyl acrolein	
Cumene	98-82-8	Isopropylbenzene	2-Phenylpropane	
Cupferron	135-20-6	Ammonium nitroso-beta-phenylhydroxylamine		
Cyanazine	21725-46-2	Bladex		
Cyanide	57-12-5	CN-	HCN	Hydrogen cyanide
Cyanogen	460-19-5	Ethanedinitrile	Prussite	
Cyanogen bromide	506-68-3	Bromine cyanide		
Cyanogen chloride	506-77-4	Chlorine cyanide		
Cyclohexane	110-82-7			
Cyclohexanol	108-93-0			
Cyclohexanone	108-94-1			
Cyclohexene	110-83-8			
Cyclohexylamine	108-91-8	Aminocyclohexane		
Cyclopentadiene	542-92-7			
Cyclophosphamide	50-18-0	Endoxan monohydrate	Genoxal	Mitoxan
Cyhalothrin	68085-85-8	Karate		

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
Cypermethrin									
Cyromazine									
2,4-D	70		70		70	70 / 20 (68)			
Dacarbazine									
Dacthal (DCPA)									
Dalapon	200		200		200	790			
Daminozide									
Danitol									
Dantron									
D&C Red No. 9									
DDD									
DDE									
DDT									
Decabromodiphenyl ether									
Demeton									
Diacetone alcohol									64000 (126)
2,4-Diaminoanisole									
2,4-Diaminoanisole sulfate									
4,4'-Diaminodiphenyl ether									
2,4-Diaminotoluene									
Diazinon							6 / 60 (191)		
Dibenz(a,h)acridine									
Dibenz(a,j)acridine									
Dibenz(a,h)anthracene									
7H-Dibenzo(c,g)carbazole									
Dibenzo(a,e)pyrene									
Dibenzo(a,h)pyrene									
Dibenzo(a,i)pyrene									
Dibenzo(a,l)pyrene									
Dibromoacetic acid	60 (106)		60 (106)						
Dibromoacetonitrile									
1,4-Dibromobenzene									
Dibromochloromethane	80 (19)		80 (19)		60				
1,2-Dibromo-3-chloropropane	0.2		0.2		0 (185)	0.0017 (188)			10 (125)
1,2-Dibromoethane	0.05		0.05		0 (185)	0.01 (188)			
Dibutyl phthalate									
Dicamba									
Dichloroacetic acid	60 (106)		60 (106)		0 (185)				
Dichloroacetonitrile									
1,2-Dichlorobenzene	600		600	100 (68)	600	600			24 (126)
1,3-Dichlorobenzene							600 / 6000 (77,191)		
1,4-Dichlorobenzene	5		75	5 (68)	75	6 (188)			11 (126)
Dichlorobenzenes									
3,3'-Dichlorobenzidine									
Dichlorodifluoromethane							1000 / 10000 (191)		
1,1-Dichloroethane	5					3 (188)			
1,2-Dichloroethane	0.5		5		0 (185)	0.4 (147,188)			7000 (126)
1,1-Dichloroethylene	6		7		7	10			1500 (126)
cis-1,2-Dichloroethylene	6		70		70	100			
trans-1,2-Dichloroethylene	10		100		100	60			260 (126)
Dichloroethylenes									
Dichloromethane	5		5		0 (185)	4 (188)			9100 (126)
2,3-Dichlorophenol									
2,4-Dichlorophenol									
2,5-Dichlorophenol									
2,6-Dichlorophenol									
3,4-Dichlorophenol									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
Cypermethrin	70								
Cyromazine	53								
2,4-D	70	35 (168)	87.5			(D)			
Dacarbazine				0.00071				0.005 (188)	(189)
Dacthal (DCPA)	70	70 (167)				(C)			
Dalapon	210	200				(D)			
Daminozide	1050			1.9				20 (188)	
Danitol	180								
Dantron				0.46				4.5 (188)	
D&C Red No. 9				6.6				50 (188)	
DDD				0.15	0.1 (B2)			1 (50,188)	
DDE				0.1	0.1 (B2)			1 (50,188)	
DDT	3.5			0.1	0.1 (B2)		0.042	1 (50,188)	(189)
Decabromodiphenyl ether	7 / 5 (68)				50 (S,68)				
Demeton	0.3								
Diacetone alcohol									
2,4-Diaminoanisole				1.5				15 (188)	
2,4-Diaminoanisole sulfate				2.7				25 (188)	
4,4'-Diaminodiphenyl ether				0.25				2.5 (188)	
2,4-Diaminotoluene				0.0092				0.1 (188)	
Diazinon		1 (167)	14			(E)			
Dibenz(a,h)acridine				0.04 (93)				(188)	
Dibenz(a,j)acridine				0.04 (93)				(188)	
Dibenz(a,h)anthracene				0.0085	(B2)			0.1 (188)	
7H-Dibenzo(c,g)carbazole				0.004 (93)				0.0015 (188)	
Dibenzo(a,e)pyrene				0.004 (93)				(188)	
Dibenzo(a,h)pyrene				0.0004 (93)				0.0027 (188)	
Dibenzo(a,i)pyrene				0.0004 (93)				0.0025 (188)	
Dibenzo(a,l)pyrene				0.0004 (93)				(188)	
Dibromoacetic acid									
Dibromoacetonitrile		20	23 / 161 (7)			(C)			
1,4-Dibromobenzene	70 (147)								
Dibromochloromethane	14	60	18000 (24-hr)	0.37	0.4 (C)	0.8 (S)	0.6		
1,2-Dibromo-3-chloropropane		50 (10-day)		0.005		0.03 (B2)	0.051	0.05 (188)	1.6 (189)
1,2-Dibromoethane	63	8 (10-day)		0.0097	0.02 (L)	0.02 (L,166)	0.055	0.1 (188)	(188)
Dibutyl phthalate	700		770		(D)	(D)			4.4 (68,189)
Dicamba	210	4000	8.75			(N)			
Dichloroacetic acid	28	5000 (10-day,68)	175 / 420 (7)		0.7 / 2.3 (L,32)	0.7 (L,166)		(188)	
Dichloroacetonitrile		6				(C)			
1,2-Dichlorobenzene	630 / 980 (68)	600	300 (25)		(D)	(D)			
1,3-Dichlorobenzene	7 (68)	600			(D)	(D)			
1,4-Dichlorobenzene	17 (68)	75	94 (25)	6.5	2.7 (68)	(C)		10 (188)	
Dichlorobenzenes									
3,3'-Dichlorobenzidine				0.029	0.08 (B2,147)			0.3 (188)	
Dichlorodifluoromethane	1400 (147)	1000	5600 (7-day)			(D)			
1,1-Dichloroethane				6.1	(C)			50 (188)	
1,2-Dichloroethane		7 (10-day)		0.74	0.4 (B2)	0.4 (B2)	0.71	5 (188)	
1,1-Dichloroethylene	35 (147)	100 (10-day)	100		(S)	0.06 (S)			
cis-1,2-Dichloroethylene		70			(D)	(D)			
trans-1,2-Dichloroethylene	140	100 (166)				(D)			
Dichloroethylenes									
Dichloromethane	420	2000 (10-day,68)	5000 (7-day)	2.5	5 (B2)	5 (B2,68)		25 (188)	
2,3-Dichlorophenol									
2,4-Dichlorophenol	21	20 (68)	2000 / 7000 (7)			(E,68)			
2,5-Dichlorophenol									
2,6-Dichlorophenol									
3,4-Dichlorophenol									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
Cypermethrin									
Cyromazine									
2,4-D									
Dacarbazine									
Dacthal (DCPA)									
Dalapon									
Daminozide									
Danitol									
Dantron									
D&C Red No. 9									
DDD	0.00083 (113,188)	0.00084 (113,188)				0.00084 (113,188)			
DDE	0.00059 (113,188)	0.00059 (113,188)				0.00059 (113,188)			
DDT	0.00059 (113,188)	0.00059 (113,188)	0.001 (114)		1.1	0.00059 (113,188)	0.001 (114)		0.13
Decabromodiphenyl ether									
Demeton									
Diacetone alcohol									
2,4-Diaminoanisole									
2,4-Diaminoanisole sulfate									
4,4'-Diaminodiphenyl ether									
2,4-Diaminotoluene									
Diazinon									
Dibenz(a,h)acridine									
Dibenz(a,j)acridine									
Dibenz(a,h)anthracene	0.0044 (113,188)	0.049 (113,188)				0.049 (113,188)			
7H-Dibenzo(c,g)carbazole									
Dibenzo(a,e)pyrene									
Dibenzo(a,h)pyrene									
Dibenzo(a,i)pyrene									
Dibenzo(a,l)pyrene									
Dibromoacetic acid									
Dibromoacetonitrile									
1,4-Dibromobenzene									
Dibromochloromethane	0.41 (113,188)	34 (113,188)				34 (113,188)			
1,2-Dibromo-3-chloropropane									
1,2-Dibromoethane									
Dibutyl phthalate	2700 (143)	12000 (143)				12000 (143)			
Dicamba									
Dichloroacetic acid									
Dichloroacetonitrile									
1,2-Dichlorobenzene	2700	17000				17000			
1,3-Dichlorobenzene	400	2600				2600			
1,4-Dichlorobenzene	400	2600				2600			
Dichlorobenzenes									
3,3'-Dichlorobenzidine	0.04 (113,143)	0.077 (113,143)				0.077 (113,143)			
Dichlorodifluoromethane									
1,1-Dichloroethane									
1,2-Dichloroethane	0.38 (113,143)	99 (113,143)				99 (113,143)			
1,1-Dichloroethylene	0.057 (113,143)	3.2 (113,143)				3.2 (113,143)			
cis-1,2-Dichloroethylene									
trans-1,2-Dichloroethylene	700	140000				140000			
Dichloroethylenes									
Dichloromethane	4.7 (113,188)	1600 (113,188)				1600 (113,188)			
2,3-Dichlorophenol									
2,4-Dichlorophenol	93 (143)	790 (143)				790 (143)			
2,5-Dichlorophenol									
2,6-Dichlorophenol									
3,4-Dichlorophenol									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Cypermethrin								0.002 (152)				
Cyromazine												
2,4-D	100 (51)											
Dacarbazine												
Dacthal (DCPA)			0.008 (8)						14300 (8)			
Dalapon									110 (54)			
Daminozide												
Danitol												
Dantron												
D&C Red No. 9												
DDD			0.00031 (188)	0.00031 (188)		0.001 (114,172)			1.1 (154,172)	0.6		
DDE			0.00022 (188)	0.00022 (188)		0.001 (114,172)			1.1 (154,172)	1050		
DDT			0.00022 (188)	0.00022 (188)		0.001 (114,172)			1.1 (154,172)			
Decabromodiphenyl ether										360 (58)	122 (58)	
Demeton									0.1 (51)			
Diacetone alcohol												
2,4-Diaminoanisole												
2,4-Diaminoanisole sulfate												
4,4'-Diaminodiphenyl ether												
2,4-Diaminotoluene												
Diazinon						0.05 / 0.17 (151)		0.08 / 0.17 (151)				
Dibenz(a,h)acridine												
Dibenz(a,j)acridine												
Dibenz(a,h)anthracene			0.0038 (113)	0.018 (113)								
7H-Dibenzo(c,g)carbazole												
Dibenzo(a,e)pyrene												
Dibenzo(a,h)pyrene												
Dibenzo(a,i)pyrene												
Dibenzo(a,l)pyrene												
Dibromoacetic acid												
Dibromoacetonitrile												
1,4-Dibromobenzene												
Dibromochloromethane			0.4 (188)	13 (188)						11000 (20)		
1,2-Dibromo-3-chloropropane												
1,2-Dibromoethane												
Dibutyl phthalate	2000	4500								940 (45)	3 (45)	
Dicamba									200 (54)			
Dichloroacetic acid												
Dichloroacetonitrile												
1,2-Dichlorobenzene	420	1300								1120 (24)	763 (24)	50 (22,23)
1,3-Dichlorobenzene	320	960								1120 (24)	763 (24)	50 (22,23)
1,4-Dichlorobenzene	63	190								1120 (24)	763 (24)	50 (22,23)
Dichlorobenzenes										1120	763	50 (22,23)
3,3'-Dichlorobenzidine			0.021 (188)	0.028 (188)								
Dichlorodifluoromethane			0.19							11000 (20)		
1,1-Dichloroethane												
1,2-Dichloroethane			0.38 (188)	37 (188)						118000	20000	
1,1-Dichloroethylene			330	7100						11600 (27)		
cis-1,2-Dichloroethylene										11600 (27)		
trans-1,2-Dichloroethylene	140	10000								11600 (27)		
Dichloroethylenes										11600		
Dichloromethane			4.6 (188)	590 (188)						11000 (20)		
2,3-Dichlorophenol					0.04							
2,4-Dichlorophenol	77	290			0.3					2020	365	70 (35)
2,5-Dichlorophenol					0.5							
2,6-Dichlorophenol					0.2							
3,4-Dichlorophenol					0.3							

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Cypermethrin													
Cyromazine													
2,4-D													
Dacarbazine													
Dacthal (DCPA)													
Dalapon													
Daminozide													
Danitol													
Dantron													
D&C Red No. 9													
DDD	0.00017 (50,188)						0.001 (114,172)			0.13 (154,172)	3.6		
DDE	0.00017 (50,188)						0.001 (114,172)			0.13 (154,172)	14		
DDT	0.00017 (50,188)						0.001 (114,172)			0.13 (154,172)			
Decabromodiphenyl ether													
Demeton										0.1 (51)			
Diacetone alcohol													
2,4-Diaminoanisole													
2,4-Diaminoanisole sulfate													
4,4'-Diaminodiphenyl ether													
2,4-Diaminotoluene													
Diazinon							0.82		0.82				
Dibenz(a,h)acridine													
Dibenz(a,j)acridine													
Dibenz(a,h)anthracene	0.0088 (33,188)										300 (52)		
7H-Dibenzo(c,g)carbazole											300 (52)		
Dibenzo(a,e)pyrene											300 (52)		
Dibenzo(a,h)pyrene											300 (52)		
Dibenzo(a,i)pyrene											300 (52)		
Dibenzo(a,l)pyrene											300 (52)		
Dibromoacetic acid													
Dibromoacetonitrile													
1,4-Dibromobenzene													
Dibromochloromethane	8.6 (188)										12000 (20)	6400 (20)	11500 (20,82)
1,2-Dibromo-3-chloropropane													
1,2-Dibromoethane													
Dibutyl phthalate	3500										2944 (45)		3.4 (38,45)
Dicamba													
Dichloroacetic acid													
Dichloroacetonitrile													
1,2-Dichlorobenzene	5100 (77)										1970 (24)	129 (22)	
1,3-Dichlorobenzene	5100 (77)										1970 (24)	129 (22)	
1,4-Dichlorobenzene	18 (188)										1970 (24)	129 (22)	
Dichlorobenzenes	5100 (77)										1970	129 (22)	
3,3'-Dichlorobenzidine	0.0081 (188)												
Dichlorodifluoromethane											12000 (20)	6400 (20)	11500 (20,82)
1,1-Dichloroethane													
1,2-Dichloroethane	28 (188)										113000		
1,1-Dichloroethylene	0.9 (188)										224000 (27)		
cis-1,2-Dichloroethylene											224000 (27)		
trans-1,2-Dichloroethylene											224000 (27)		
Dichloroethylenes											224000		
Dichloromethane	450 (188)										12000 (20)	6400 (20)	11500 (20,82)
2,3-Dichlorophenol		1 (87)			4 (87)	10 (87)							
2,4-Dichlorophenol		1 (87)			4 (87)	10 (87)							
2,5-Dichlorophenol		1 (87)			4 (87)	10 (87)							
2,6-Dichlorophenol		1 (87)			4 (87)	10 (87)							
3,4-Dichlorophenol		1 (87)			4 (87)	10 (87)							

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
Cypermethrin	52315-07-8	Stockade		
Cyromazine	66215-27-8	Azimethiphos		
2,4-D	94-75-7	2,4-Dichlorophenoxyacetic acid		
Dacarbazine	4342-03-4			
Dacthal (DCPA)	1861-32-1	DCPA	2,3,5,6-Tetrachloroterephthalic acid dimethyl ether	
Dalapon	75-99-0	Dowpon	2,2-Dichloropropionic acid	
Daminozide	1596-84-5	Dazide	Alar	Butanedioic acid mono(2,2-dimethyl hydrazide)
Danitol	39515-41-8	Fenpropathrin	Fenpropanate	
Dantron	117-10-2	Chrysazin	1,8-Dihydroxyanthraquinone	
D&C Red No. 9	2092-56-0			
DDD	72-54-8	4,4'-DDD	Dichlorodiphenyldichloroethane	1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane
DDE	72-55-9	4,4'-DDE	Dichlorodiphenyldichloroethylene	
DDT	50-29-3	4,4'-DDT	Dichlorodiphenyltrichloroethane	
Decabromodiphenyl ether	1163-19-5	DBDPE	Bis(pentabromophenyl) ether	BDE-209
Demeton	8065-48-3	Systox		
Diacetone alcohol	123-42-2	4-Hydroxy-4-methyl-2-pentanone		
2,4-Diaminoanisole	615-05-4	Methoxyphenylenediamine	4-Methoxy-1,3-benzenediamine	
2,4-Diaminoanisole sulfate	39156-41-7			
4,4'-Diaminodiphenyl ether	101-80-4	4,4'-Oxydianiline	Bis(4-aminophenyl)ether	
2,4-Diaminotoluene	95-80-7	2,4-Toluenediamine		
Diazinon	333-41-5	Basudin	Neocidol	
Dibenz(a,h)acridine	226-36-8			
Dibenz(a,j)acridine	224-42-0			
Dibenz(a,h)anthracene	53-70-3	1,2;5,6-Dibenzanthracene	Dibenzo(a,h)anthracene	[A Polynuclear aromatic hydrocarbon (PAH)]
7H-Dibenzo(c,g)carbazole	194-59-2			[A Polynuclear aromatic hydrocarbon (PAH)]
Dibenzo(a,e)pyrene	192-65-4			[A Polynuclear aromatic hydrocarbon (PAH)]
Dibenzo(a,h)pyrene	189-64-0			[A Polynuclear aromatic hydrocarbon (PAH)]
Dibenzo(a,i)pyrene	189-55-9			[A Polynuclear aromatic hydrocarbon (PAH)]
Dibenzo(a,l)pyrene	191-30-0			[A Polynuclear aromatic hydrocarbon (PAH)]
Dibromoacetic acid	631-64-1	[A Haloacetic acid]		
Dibromoacetonitrile	3252-43-5			
1,4-Dibromobenzene	106-37-6			
Dibromochloromethane	124-48-1	Chlorodibromomethane		[A Trihalomethane (THM)]
1,2-Dibromo-3-chloropropane	96-12-8	Dibromochloropropane	DBCP	
1,2-Dibromoethane	106-93-4	Ethylene dibromide	EDB	
Dibutyl phthalate	84-74-2	Bis-butyl phthalate	Di-n-butylphthalate	[A phthalate acid ester (PAE)]
Dicamba	1918-00-9	Banvel		
Dichloroacetic acid	79-43-6	[A Haloacetic acid]		
Dichloroacetonitrile	3018-12-0			
1,2-Dichlorobenzene	95-50-1	o-Dichlorobenzene	o-DCB	
1,3-Dichlorobenzene	541-73-1	m-Dichlorobenzene		
1,4-Dichlorobenzene	106-46-7	p-Dichlorobenzene	PDB	p-DCB
Dichlorobenzenes	25321-22-6	Benzenes, dichloro-		
3,3'-Dichlorobenzidine	91-94-1	DCB		
Dichlorodifluoromethane	75-71-8	Difluorodichloromethane	Freon 12	
1,1-Dichloroethane	75-34-3	1,1-DCA		
1,2-Dichloroethane	107-06-2	1,2-DCA	Ethylene dichloride	Freon 150
1,1-Dichloroethylene	75-35-4	1,1-Dichloroethene	1,1-DCE	Vinylidene chloride
cis-1,2-Dichloroethylene	156-59-2	cis-1,2-Dichloroethene	cis-1,2-DCE	
trans-1,2-Dichloroethylene	156-60-5	trans-1,2-Dichloroethene	trans-1,2-DCE	
Dichloroethylenes		Ethylenes, dichloro-	Dichloroethenes	
Dichloromethane	75-09-2	Methylene chloride		
2,3-Dichlorophenol	576-24-9			
2,4-Dichlorophenol	120-83-2			
2,5-Dichlorophenol	583-78-8			
2,6-Dichlorophenol	87-65-0			
3,4-Dichlorophenol	95-77-2			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
2,4-Dichlorophenoxybutyric acid									
1,2-Dichloropropane	5		5		0 (185)	0.5 (188)			10 (126)
Dichloropropanes									
2,3-Dichloropropanol									
1,3-Dichloropropene	0.5					0.2 (147,188)			
Dichloropropenes									
Dichlorvos									
Dicrotophos									
Dieldrin							0.002 / 0.2 (188,191)		
Diesel Oil									100 (49)
Diethanolamine									22000000 (126)
Diethylamine									470 (126)
Di(2-ethylhexyl)adipate	400		400		400	200 (189)			
Di(2-ethylhexyl)phthalate	4		6		0 (185)	12 (188)			
Diethyl ketone									4700 (126)
Diethyl phthalate									
Diethylstilbestrol									
Diethyl sulfate									
Difenzoquat									
Diflubenzuron									
Diglycidyl resorcinol ether									
Dihydrosafrole									
Diisobutyl ketone									14 (126)
Diisopropylamine									1300 (126)
Diisopropyl methyl phosphonate									
Dimethipin									
Dimethoate							1 / 10 (191)		
3,3'-Dimethoxybenzidine									
Dimethrin									
Dimethylamine									290 (126)
4-Dimethylaminoazobenzene									
trans-2-[(Dimethylamino) methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole									
N,N-Dimethylaniline									25 (126)
7,12-Dimethylbenz(a)anthracene									
3,3'-Dimethylbenzidine									
Dimethylcarbamoyl chloride									
N,N-Dimethylformamide									50000 (126)
1,1-Dimethylhydrazine									
1,2-Dimethylhydrazine									
Dimethyl methylphosphonate									
2,4-Dimethylphenol							100 / 1000 (191)		
2,6-Dimethylphenol									
3,4-Dimethylphenol									
Dimethyl phthalate									
Dimethyl sulfate									
Dimethyl terephthalate									
Dimethylvinylchloride									
1,3-Dinitrobenzene									
4,6-Dinitro-o-cresol									
4,6-Dinitro-o-cyclohexyl phenol									
2,4-Dinitrophenol									
Dinitrophenols									
1,6-Dinitropyrene									
1,8-Dinitropyrene									
2,4-Dinitrotoluene									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
2,4-Dichlorophenoxybutyric acid	56								455 (189)
1,2-Dichloropropane		90 (10-day)		0.97		0.6 (B2)		4.9 (188)	
Dichloropropanes									
2,3-Dichloropropanol	21 (147)								
1,3-Dichloropropene	210	3 (10-day)		0.38	0.4 / 0.708 (B2,163)	0.4 (L,166)	0.45	2 (68,188)	
Dichloropropenes									
Dichlorvos	3.5			0.085	0.1 (B2)			1 (188)	
Dicrotophos	0.7								
Dieldrin	0.35	0.5 (10-day)		0.0022	0.002 (B2)	0.002 (B2)	0.0019	0.02 (188)	
Diesel Oil	56 / 140 (30,146)	100 (10-day,49)							
Diethanolamine									
Diethylamine									
Di(2-ethylhexyl)adipate	420	400			30 (C)	30 (C)			
Di(2-ethylhexyl)phthalate	140		4200	12	3 (B2)	3 (B2)	2.4	155 (188)	10 / 205 (153,189)
Diethyl ketone									
Diethyl phthalate	5600				(D)	(D)			
Diethylstilbestrol				0.0001				0.001 (188)	
Diethyl sulfate								0.35 (68,188)	
Difenzoquat	560								
Diflubenzuron	140								
Diglycidyl resorcinol ether				0.021				0.2 (188)	
Dihydrosafrole				0.8				10 (188)	
Diisobutyl ketone									
Diisopropylamine									
Diisopropyl methyl phosphonate	560	600			(D)	(D)			
Dimethipin	14				(C)				
Dimethoate	1.4								
3,3'-Dimethoxybenzidine								0.075 / 0.095 (174,188)	
Dimethrin		2000				(D)			
Dimethylamine									
4-Dimethylaminoazobenzene				0.0076				0.1 (188)	
trans-2-[(Dimethylamino) methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole				0.08				1 (188)	
N,N-Dimethylaniline	14								
7,12-Dimethylbenz(a)anthracene				0.00014				0.0015 (188)	
3,3'-Dimethylbenzidine								0.022 / 0.0295 (174,188)	
Dimethylcarbamoyl chloride				0.0027				0.025 (188)	
N,N-Dimethylformamide									
1,1-Dimethylhydrazine								0.15 (68,188)	
1,2-Dimethylhydrazine				0.000064				0.0005 (188)	
Dimethyl methylphosphonate		100				7 (C)			
2,4-Dimethylphenol	140								
2,6-Dimethylphenol	4 (147)								
3,4-Dimethylphenol	7 (147)								
Dimethyl phthalate					(D)	(D)			
Dimethyl sulfate					(B2)			0.025 (68,188)	
Dimethyl terephthalate	700								
Dimethylvinylchloride				0.78				10 (188)	
1,3-Dinitrobenzene	0.7 (147)	1			(D)	(D)			19 (189)
4,6-Dinitro-o-cresol			110 (11)						
4,6-Dinitro-o-cyclohexyl phenol	14								
2,4-Dinitrophenol	14 (147)		110 (11)						
Dinitrophenols			110						
1,6-Dinitropyrene				0.0004 (93)				0.01 (68,188)	
1,8-Dinitropyrene				0.004 (93)				0.005 (68,188)	
2,4-Dinitrotoluene	14	500 (10-day)		0.11	0.05 (B2,65)	0.05 (B2,65)		1 (188)	(189)

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
2,4-Dichlorophenoxybutyric acid									
1,2-Dichloropropane	0.52	39				39			
Dichloropropanes									
2,3-Dichloropropanol									
1,3-Dichloropropene	10 (143)	1700 (143)				1700 (143)			
Dichloropropenes									
Dichlorvos									
Dicrotophos									
Dieldrin	0.00014 (113,188)	0.00014 (113,188)	0.056	0.24		0.00014 (113,188)	0.0019 (114)		0.71
Diesel Oil									
Diethanolamine									
Diethylamine									
Di(2-ethylhexyl)adipate									
Di(2-ethylhexyl)phthalate	1.8 (113,143)	5.9 (113,143)				5.9 (113,143)			
Diethyl ketone									
Diethyl phthalate	23000 (143)	120000 (143)				120000 (143)			
Diethylstilbestrol									
Diethyl sulfate									
Difenzoquat									
Diflubenzuron									
Diglycidyl resorcinol ether									
Dihydrosafrole									
Diisobutyl ketone									
Diisopropylamine									
Diisopropyl methyl phosphonate									
Dimethipin									
Dimethoate									
3,3'-Dimethoxybenzidine									
Dimethrin									
Dimethylamine									
4-Dimethylaminoazobenzene									
trans-2-[(Dimethylamino) methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole									
N,N-Dimethylaniline									
7,12-Dimethylbenz(a)anthracene									
3,3'-Dimethylbenzidine									
Dimethylcarbamoyl chloride									
N,N-Dimethylformamide									
1,1-Dimethylhydrazine									
1,2-Dimethylhydrazine									
Dimethyl methylphosphonate									
2,4-Dimethylphenol	540	2300				2300			
2,6-Dimethylphenol									
3,4-Dimethylphenol									
Dimethyl phthalate	313000 (143)	2900000 (143)				2900000 (143)			
Dimethyl sulfate									
Dimethyl terephthalate									
Dimethylvinylchloride									
1,3-Dinitrobenzene									
4,6-Dinitro-o-cresol	13.4 (143)	765 (143)				765 (143)			
4,6-Dinitro-o-cyclohexyl phenol									
2,4-Dinitrophenol	70 (143)	14000 (143)				14000 (143)			
Dinitrophenols									
1,6-Dinitropyrene									
1,8-Dinitropyrene									
2,4-Dinitrotoluene	0.11 (113,143)	9.1 (113,143)				9.1 (113,143)			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
2,4-Dichlorophenoxybutyric acid												
1,2-Dichloropropane			0.5 (188)	15 (188)						23000 (28)	5700 (28)	
Dichloropropanes										23000	5700	
2,3-Dichloropropanol												
1,3-Dichloropropene			0.34 (188)	21 (188)						6060 (29)	244 (29)	
Dichloropropenes	87	14100								6060	244	
Dichlorvos												
Dicrotophos												
Dieldrin			0.000052 (188)	0.000054 (188)		0.056 (139)		0.24				
Diesel Oil												
Diethanolamine												
Diethylamine												
Di(2-ethylhexyl)adipate												
Di(2-ethylhexyl)phthalate			1.2 (188)	2.2 (188)		(138)						
Diethyl ketone												
Diethyl phthalate	17000	44000								940 (45)	3 (45)	
Diethylstilbestrol												
Diethyl sulfate												
Difenzoquat												
Diflubenzuron												
Diglycidyl resorcinol ether												
Dihydrosafrole												
Diisobutyl ketone												
Diisopropylamine												
Diisopropyl methyl phosphonate												
Dimethipin												
Dimethoate												
3,3'-Dimethoxybenzidine												
Dimethrin												
Dimethylamine												
4-Dimethylaminoazobenzene												
trans-2-[(Dimethylamino) methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole												
N,N-Dimethylaniline												
7,12-Dimethylbenz(a)anthracene												
3,3'-Dimethylbenzidine												
Dimethylcarbamoyl chloride												
N,N-Dimethylformamide												
1,1-Dimethylhydrazine												
1,2-Dimethylhydrazine												
Dimethyl methylphosphonate												
2,4-Dimethylphenol	380	850			400					2120		
2,6-Dimethylphenol												
3,4-Dimethylphenol												
Dimethyl phthalate	270000	1100000								940 (45)	3 (45)	
Dimethyl sulfate												
Dimethyl terephthalate										940 (45)	3 (45)	
Dimethylvinylchloride												
1,3-Dinitrobenzene												
4,6-Dinitro-o-cresol	13	280								230 (88)		150 (38,88)
4,6-Dinitro-o-cyclohexyl phenol												
2,4-Dinitrophenol	69	5300								230 (88)		150 (38,88)
Dinitrophenols	69	5300								230 (88)		150 (38,88)
1,6-Dinitropyrene												
1,8-Dinitropyrene												
2,4-Dinitrotoluene			0.11 (188)	3.4 (188)						330 (53)	230 (53)	

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
2,4-Dichlorophenoxybutyric acid													
1,2-Dichloropropane											10300 (28)	3040 (28)	
Dichloropropanes											10300	3040	
2,3-Dichloropropanol													
1,3-Dichloropropene	8.9 (188)										790 (29)		
Dichloropropenes											790		
Dichlorvos													
Dicrotophos													
Dieldrin	0.00004 (188)						0.0019 (114)			0.71 (154)			
Diesel Oil													
Diethanolamine													
Diethylamine													
Di(2-ethylhexyl)adipate													
Di(2-ethylhexyl)phthalate	3.5 (188)						(138)						
Diethyl ketone													
Diethyl phthalate	33000										2944 (45)		3.4 (38,45)
Diethylstilbestrol													
Diethyl sulfate													
Difenzoquat													
Diflubenzuron													
Diglycidyl resorcinol ether													
Dihydrosafrole													
Diisobutyl ketone													
Diisopropylamine													
Diisopropyl methyl phosphonate													
Dimethipin													
Dimethoate													
3,3'-Dimethoxybenzidine													
Dimethrin													
Dimethylamine													
4-Dimethylaminoazobenzene													
trans-2-[(Dimethylamino) methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole													
N,N-Dimethylaniline													
7,12-Dimethylbenz(a)anthracene											300 (52)		
3,3'-Dimethylbenzidine													
Dimethylcarbamoyl chloride													
N,N-Dimethylformamide													
1,1-Dimethylhydrazine													
1,2-Dimethylhydrazine													
Dimethyl methylphosphonate													
2,4-Dimethylphenol		30 (86)			120 (86)	300 (86)							
2,6-Dimethylphenol													
3,4-Dimethylphenol													
Dimethyl phthalate	820000										2944 (45)		3.4 (38,45)
Dimethyl sulfate													
Dimethyl terephthalate											2944 (45)		3.4 (38,45)
Dimethylvinylchloride													
1,3-Dinitrobenzene													
4,6-Dinitro-o-cresol	220	30 (86)			120 (86)	300 (86)					4850 (88)		
4,6-Dinitro-o-cyclohexyl phenol		30 (86)			120 (86)	300 (86)							
2,4-Dinitrophenol	4	30 (86)			120 (86)	300 (86)					4850 (88)		
Dinitrophenols		30 (86)			120 (86)	300 (86)					4850 (88)		
1,6-Dinitropyrene													
1,8-Dinitropyrene													
2,4-Dinitrotoluene	2.6 (188)										590 (53)		370 (53,82)

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
2,4-Dichlorophenoxybutyric acid	94-82-6	2,4-D butyric acid	2,4-DB	
1,2-Dichloropropane	78-87-5	Propylene dichloride	component of D-D	minor component of Telone
Dichloropropanes	26638-19-7	Propanes, dichloro-		
2,3-Dichloropropanol	616-23-9			
1,3-Dichloropropene	542-75-6	1,3-Dichloropropylene	component of D-D	Telone II
Dichloropropenes		Propenes, dichloro-		
Dichlorvos	62-73-7	DDVP	Dichlorodimethylvinylphosphate	
Dicrotophos	141-66-2	Bidrin		
Dieldrin	60-57-1			
Diesel Oil	68476-34-6	Fuel oil #2		[A petroleum hydrocarbon]
Diethanolamine	111-42-2	DEA		
Diethylamine	109-89-7			
Di(2-ethylhexyl)adipate	103-23-1	Diethylhexyl adipate	DEHA	
Di(2-ethylhexyl)phthalate	117-81-7	Bis(2-ethylhexyl) phthalate	DEHP	[A phthalate acid ester (PAE)]
Diethyl ketone	96-22-0	3-Pentanone		
Diethyl phthalate	84-66-2	Bis-ethyl phthalate	[A phthalate acid ester (PAE)]	
Diethylstilbestrol	56-53-1	DES		
Diethyl sulfate	64-67-5			
Difenzoquat	43222-48-6	Avenge		
Diflubenzuron	35367-38-5			
Diglycidyl resorcinol ether	101-90-6	DGRE		
Dihydrosafrole	94-58-6	1,2-(Methylenedioxy)-4-propylbenzene	1,3-Benzodioxole	
Diisobutyl ketone	108-83-8	2,6-Dimethyl-4-heptanone		
Diisopropylamine	108-18-9			
Diisopropyl methyl phosphonate	1445-75-6	DIMP		
Dimethipin	55290-64-7	Harvade		
Dimethoate	60-51-5	De-Fend	Cygon	Fosfamid
3,3'-Dimethoxybenzidine	119-90-4	o-Dianisidine		
Dimethrin	70-38-2	2,4-Dimethylbenzylester	Chrysanthemumic acid	
Dimethylamine	124-40-3	DMA		
4-Dimethylaminoazobenzene	60-11-7	Methyl yellow	Butter yellow	p-Dimethylaminoazobenzene
trans-2-[(Dimethylamino) methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	55738-54-0			
N,N-Dimethylaniline	121-69-7			
7,12-Dimethylbenz(a)anthracene	57-97-6	DMBA		[A Polynuclear aromatic hydrocarbon (PAH)]
3,3'-Dimethylbenzidine	119-93-7	o-Tolidine		
Dimethylcarbamoyl chloride	79-44-7	Dimethylcarbamyl chloride		
N,N-Dimethylformamide	68-12-2	DMF		
1,1-Dimethylhydrazine	57-14-7	UDMH	unsymmetrical-Dimethylhydrazine	
1,2-Dimethylhydrazine	540-73-8	symmetrical-Dimethylhydrazine		
Dimethyl methylphosphonate	756-79-6			
2,4-Dimethylphenol	105-67-9	asymmetrical-m-Xylenol	2,4-DMP	
2,6-Dimethylphenol	576-26-1			
3,4-Dimethylphenol	95-65-8			
Dimethyl phthalate	131-11-3	Bis-methyl phthalate	[A phthalate acid ester (PAE)]	
Dimethyl sulfate	77-78-1			
Dimethyl terephthalate	120-61-6	DMT	Dimethyl p-phthalate	
Dimethylvinylchloride	513-37-1	1-Chloro-2-methylpropene	1-Chloroisobutene	
1,3-Dinitrobenzene	99-65-0	m-Dinitrobenzene		
4,6-Dinitro-o-cresol	534-52-1	2-Methyl-4,6-dinitrophenol	4,6-Dinitro-2-methylphenol	
4,6-Dinitro-o-cyclohexyl phenol	131-89-5	DNOHP		
2,4-Dinitrophenol	51-28-5			
Dinitrophenols	25550-58-7			
1,6-Dinitropyrene	42397-64-8			
1,8-Dinitropyrene	42397-65-9			
2,4-Dinitrotoluene	121-14-2			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
2,6-Dinitrotoluene									
Dinitrotoluenes									
Dinoseb	7		7		7	14 (189)			
Di(n-octyl) phthalate									
1,4-Dioxane							3 / 300 (188,191)		230000 (126)
Diphenamid(e)							200 / 2000 (191)		
Diphenylamine									
1,2-Diphenylhydrazine									
Diquat	20		20		20	15			
Direct Black 38									
Direct Blue 6									
Direct Brown 95									
Disodium cyanodithioimidocarbonate									
Disperse Blue 1									
Disulfoton									
1,4-Dithiane									
Diuron									
Dodine									
Electrical Conductivity		900 umhos/cm (74)						700 umhos/cm	
Endosulfan									
Endosulfan sulfate									
Endothal	100		100		100	580			
Endrin	2		2		2	1.8			
Endrin aldehyde									
Epichlorohydrin	(145)		(145)		0 (185)				500 / 1000 (30,125)
EPN									
Estradiol 17B									
Ethane									7500 (126)
Ethanol									760000 (126)
Ethanolamine									20000000 (126)
Ethephon									
Ethion							4 / 40 (191)		
2-Ethoxyethanol									190000 (126)
2-Ethoxyethyl acetate									5000 (126)
Ethyl acetate									2600 (126)
Ethyl acrylate									0.38 (126)
Ethylamine									4300 (126)
Ethyl n-amyl ketone									2500 (126)
Ethylbenzene	300		700	30 (68)	700	300			29 (26,125)
Ethyl bromide									46 (126)
Ethyl-4,4'-dichlorobenzilate									
S-Ethyl dipropylthiocarbamate									
Ethylene									39 (126)
Ethylenediamine									16000000 (126)
Ethylene glycol							14000 / 140000 (191)		
Ethylene glycol monobutyl ether									
Ethyleneimine									170000 (126)
Ethylene oxide (ETO)									140000 (126)
Ethylene thiourea (ETU)									
Ethyl ether									750 (126)
Ethyl formate									11000 (126)
Ethyl mercaptan									0.0075 (126)
Ethylphthalyl ethylglycolate									
Express									
Fenamiphos									
Ferbam									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
2,6-Dinitrotoluene		7 (60)			0.05 (B2,65)	0.05 (B2,65)		(188)	(189)
Dinitrotoluenes									
Dinoseb	7	7	39		(D)	(D)			(189)
Di(n-octyl) phthalate									
1,4-Dioxane		400 (10-day)		1.3	3 (B2)	3 (B2,166)		15,188	
Diphenamid(e)	210	200				(D)			
Diphenylamine	180	200				(D)			
1,2-Diphenylhydrazine				0.04	0.05 (B2,147)			0.4 (188)	
Diquat	16	35 (167)				(E,167)			
Direct Black 38				0.0047 (177)				0.045 (177,188)	
Direct Blue 6				0.0047 (177)				0.045 (177,188)	
Direct Brown 95				0.0052 (177)				0.05 (177,188)	
Disodium cyanodithioimidocarbonate									28 (189)
Disperse Blue 1				7.8 (177)				100 (188)	
Disulfoton	0.3	0.7 (167)	0.7			(E,167)			
1,4-Dithiane	70 (147)	80			(D)	(D)			
Diuron	14	21 (167)				2 (L,167)		(188)	
Dodine	28								
Electrical Conductivity									
Endosulfan	42								
Endosulfan sulfate									
Endothal	140	50 (167)				(L,167)			
Endrin	2	2 (166)			(D)	(D)		(188)	(189)
Endrin aldehyde									
Epichlorohydrin		14 (60)	530 (7-day)	0.44	3 (B2)	3 (B2,166)		4.5 (188)	(189)
EPN	0.07								
Estradiol 17B				0.0009				0.01 (188)	
Ethane									
Ethanol									
Ethanolamine									
Ethephon	35								
Ethion	3.5								
2-Ethoxyethanol									375 (68,189)
2-Ethoxyethyl acetate									550 (68,189)
Ethyl acetate	6300								
Ethyl acrylate								(188)	
Ethylamine									
Ethyl n-amyl ketone									
Ethylbenzene	700	700			(D)	(D)		(188)	
Ethyl bromide								(188)	
Ethyl-4,4'-dichlorobenzilate	140			0.32				3.5 (188)	
S-Ethyl dipropylthiocarbamate	180								350 (189)
Ethylene									
Ethylenediamine									
Ethylene glycol	14000	14000 (166)				(D)			
Ethylene glycol monobutyl ether	350				(C)				
Ethyleneimine				0.00054				0.005 (188)	
Ethylene oxide (ETO)				0.11				1 (188)	10 (189)
Ethylene thiourea (ETU)	0.6	300 (10-day)		0.78		0.2 (B2)	0.23	10 (188)	(189)
Ethyl ether	1400								
Ethyl formate									
Ethyl mercaptan									
Ethylphthalyl ethylglycolate	21000 (147)								
Express	56								
Fenamiphos	1.8	0.7 (167)				(E,167)			
Ferbam			87.5						

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
2,6-Dinitrotoluene									
Dinitrotoluenes									
Dinoseb									
Di(n-octyl) phthalate									
1,4-Dioxane									
Diphenamid(e)									
Diphenylamine									
1,2-Diphenylhydrazine	0.04 (113,143)	0.54 (113,143)				0.54 (113,143)			
Diquat									
Direct Black 38									
Direct Blue 6									
Direct Brown 95									
Disodium cyanodithioimidocarbonate									
Disperse Blue 1									
Disulfoton									
1,4-Dithiane									
Diuron									
Dodine									
Electrical Conductivity									
Endosulfan	110 (115)	240 (115)	0.056 (114,115)		0.22 (115)	240 (115)	0.0087 (114,115)		0.034 (115)
Endosulfan sulfate	110	240				240			
Endothal									
Endrin	0.76 (18)	0.81 (18)	0.036	0.086		0.81 (18)	0.0023 (114)		0.037
Endrin aldehyde	0.76	0.81				0.81			
Epichlorohydrin									
EPN									
Estradiol 17B									
Ethane									
Ethanol									
Ethanolamine									
Ethephon									
Ethion									
2-Ethoxyethanol									
2-Ethoxyethyl acetate									
Ethyl acetate									
Ethyl acrylate									
Ethylamine									
Ethyl n-amyl ketone									
Ethylbenzene	3100 (143)	29000 (143)				29000 (143)			
Ethyl bromide									
Ethyl-4,4'-dichlorobenzilate									
S-Ethyl dipropylthiocarbamate									
Ethylene									
Ethylenediamine									
Ethylene glycol									
Ethylene glycol monobutyl ether									
Ethyleneimine									
Ethylene oxide (ETO)									
Ethylene thiourea (ETU)									
Ethyl ether									
Ethyl formate									
Ethyl mercaptan									
Ethylphthalyl ethylglycolate									
Express									
Fenamiphos									
Ferbam									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
2,6-Dinitrotoluene										330 (53)	230 (53)	
Dinitrotoluenes										330	230	
Dinoseb												
Di(n-octyl) phthalate										940 (45)	3 (45)	
1,4-Dioxane												
Diphenamid(e)												
Diphenylamine												
1,2-Diphenylhydrazine			0.036 (188)	0.2 (188)						270		
Diquat									0.5 (54)			
Direct Black 38												
Direct Blue 6												
Direct Brown 95												
Disodium cyanodithioimidocarbonate												
Disperse Blue 1												
Disulfoton									0.05 (54)			
1,4-Dithiane												
Diuron												
Dodine												
Electrical Conductivity												
Endosulfan	62 (115)	89 (115)				0.056 (114,115)			0.22 (115)			
Endosulfan sulfate	62	89					0.056 (104)					
Endothal												
Endrin	0.059	0.06				0.036 (139)		0.086				
Endrin aldehyde	0.29	0.3										
Epichlorohydrin												
EPN												
Estradiol 17B												
Ethane												
Ethanol												
Ethanolamine												
Ethephon												
Ethion									0.02 (54)			
2-Ethoxyethanol												
2-Ethoxyethyl acetate												
Ethyl acetate												
Ethyl acrylate												
Ethylamine												
Ethyl n-amyl ketone												
Ethylbenzene	530	2100								32000		
Ethyl bromide												
Ethyl-4,4'-dichlorobenzilate												
S-Ethyl dipropylthiocarbamate												
Ethylene												
Ethylenediamine												
Ethylene glycol												
Ethylene glycol monobutyl ether												
Ethyleneimine												
Ethylene oxide (ETO)												
Ethylene thiourea (ETU)												
Ethyl ether												
Ethyl formate												
Ethyl mercaptan												
Ethylphthalyl ethylglycolate	86000 (68)	5080000 (68)								940 (45)	3 (45)	
Express												
Fenamiphos												
Ferbam												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
2,6-Dinitrotoluene											590 (53)		370 (53,82)
Dinitrotoluenes											590		370 (82)
Dinoseb													
Di(n-octyl) phthalate											2944 (45)		3.4 (38,45)
1,4-Dioxane													
Diphenamid(e)													
Diphenylamine													
1,2-Diphenylhydrazine	0.16 (188)												
Diquat													
Direct Black 38													
Direct Blue 6													
Direct Brown 95													
Disodium cyanodithioimidocarbonate													
Disperse Blue 1													
Disulfoton													
1,4-Dithiane													
Diuron													
Dodine													
Electrical Conductivity													
Endosulfan		0.009 (42)			0.018 (42)	0.027 (42)	0.0087 (114,115)			0.034 (115)			
Endosulfan sulfate		0.009 (42)			0.018 (42)	0.027 (42)		0.0087 (104)					
Endothal													
Endrin		0.002			0.004	0.006	0.0023 (114)			0.037 (154)			
Endrin aldehyde													
Epichlorohydrin													
EPN													
Estradiol 17B													
Ethane													
Ethanol													
Ethanolamine													
Ethephon													
Ethion													
2-Ethoxyethanol													
2-Ethoxyethyl acetate													
Ethyl acetate													
Ethyl acrylate													
Ethylamine													
Ethyl n-amyl ketone													
Ethylbenzene	4100										430		
Ethyl bromide													
Ethyl-4,4'-dichlorobenzilate													
S-Ethyl dipropylthiocarbamate													
Ethylene													
Ethylenediamine													
Ethylene glycol													
Ethylene glycol monobutyl ether													
Ethyleneimine													
Ethylene oxide (ETO)													
Ethylene thiourea (ETU)													
Ethyl ether													
Ethyl formate													
Ethyl mercaptan													
Ethylphthalyl ethylglycolate											2944 (45)		3.4 (38,45)
Express													
Fenamiphos													
Ferbam													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
2,6-Dinitrotoluene	606-20-2			
Dinitrotoluenes	25321-14-6	Toluenes, dinitro-		
Dinoseb	88-85-7	DNBP		
Di(n-octyl) phthalate	117-84-0	Bis-n-octyl phthalate	[A phthalate acid ester (PAE)]	
1,4-Dioxane	123-91-1	p-Dioxane	Diethylene ether	
Diphenamid(e)	957-51-7	Diphenamide		
Diphenylamine	122-39-4			
1,2-Diphenylhydrazine	122-66-7	Hydrazobenzene		
Diquat	85-00-7	Aquacide	Reglone	
Direct Black 38	1937-37-7	2-Naphthalenesulfonic acid		
Direct Blue 6	2602-46-2	Diazine blue		
Direct Brown 95	16071-86-6			
Disodium cyanodithioimidocarbonate	138-93-2	Disodium cyanodithiocarbamate	Disodium cyanodithioamideocarbonate	
Disperse Blue 1	2475-45-8	1,4,5,8-Tetraminoanthraquinone		
Disulfoton	298-04-4	Disyston	Ethylthiodemeton	
1,4-Dithiane	505-29-3			
Diuron	330-54-1	Crisuron	Dialon	Karmex
Dodine	2439-10-3	Dodecylguanidine acetate		
Electrical Conductivity		Specific conductance	Conductivity	EC
Endosulfan	115-29-7	Endosulfan I (alpha)	Endosulfan II (beta)	Thiodan
Endosulfan sulfate	1031-07-8			
Endothal	145-73-3	Endothall		
Endrin	72-20-8	Endrex	Hexadrin	
Endrin aldehyde	7421-93-4			
Epichlorohydrin	106-89-8	Chloropropylene	1-Chloro-2,3-epoxypropane	
EPN	2104-64-5	Ethyl p-nitrophenyl phenylphosphorothioate		
Estradiol 17B	50-28-2	Altrad	Baridol	Femogen
Ethane	74-84-0			
Ethanol	64-17-5	Ethyl alcohol		
Ethanolamine	141-43-5	2-Aminoethanol	MEA	Monoethanolamine
Ethephon	16672-87-0	2-Chloroethylphosphonic acid		
Ethion	563-12-2	Diethion		
2-Ethoxyethanol	110-80-5	Ethylene glycol monoethyl ether	EGEE	
2-Ethoxyethyl acetate	111-15-9	Ethylene glycol monoethyl ether acetate	EGEEA	2-Ethoxyethanol acetate
Ethyl acetate	141-78-6			
Ethyl acrylate	140-88-5			
Ethylamine	75-04-7	Aminoethane		
Ethyl n-amyl ketone	106-68-3	EAK	5-Methyl-3-heptanone	
Ethylbenzene	100-41-4	Phenylethane		
Ethyl bromide	74-96-4	Bromoethane		
Ethyl-4,4'-dichlorobenzilate	510-15-6	Chlorobenzilate		
S-Ethyl dipropylthiocarbamate	759-94-4	EPTC	Eptam	Ethyl dipropylthiocarbamate
Ethylene	74-85-1			
Ethylenediamine	107-15-3	1,2-Diaminoethane		
Ethylene glycol	107-21-1	1,2-Ethane diol		
Ethylene glycol monobutyl ether	111-76-2	2-Butoxy ethanol	Ethylene glycol butyl ether	EGBE
Ethyleneimine	151-56-4	Aziridine		
Ethylene oxide (ETO)	75-21-8	ETO	Epoxyethane	Oxirane
Ethylene thiourea (ETU)	96-45-7	ETU		
Ethyl ether	60-29-7			
Ethyl formate	109-94-4			
Ethyl mercaptan	75-08-1	Ethanethiol		
Ethylphthalyl ethylglycolate	84-72-0	EPEG	Ethyl carbethoxymethyl phthalate	[A phthalate acid ester (PAE)]
Express	101200-48-0	IN L5300		
Fenamiphos	22224-92-6	Nemacur	Phenamiphos	
Ferbam	14484-64-1	Fermate		

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
Fluometuron									
Fluoranthene									
Fluorene									
Fluoride	2000 (109)		4000	2000	4000 (195)	1000		1000	
Fluridone									
Flurprimidol									
Flutolanil									
Fluvalinate									
Foaming agents (MBAS)		500		500					
Folpet									
Fomesafen									
Fonofos									
Formaldehyde							100 / 1000 (191)		600 (126)
Formic acid									1700000 (126)
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole									
Fosetyl-al									
Furan									
Furfural									3500 (126)
Furmecyclox									
Gasoline									5 (55)
Glufosinate-ammonium									
Glu-P-1									
Glu-P-2									
Glycidaldehyde									
Glycidol									
Glyphosate	700		700		700	900			
Griseofluvin									
Gyromitrin									
Haloethers									
Halomethanes	80 (19)		80 (19)						
Halothane									290 (126)
Haloxyfop-methyl									
Harmony									
HC Blue 1									
Heptachlor	0.01		0.4		0 (185)	0.008 (188)			
Heptachlor epoxide	0.01		0.2		0 (185)	0.006 (188)			
2,3,3',4,4',5,5'-Heptachlorobiphenyl									
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin									
1,2,3,4,6,7,8-Heptachlorodibenzo-furan									
1,2,3,4,7,8,9-Heptachlorodibenzo-furan									
Heptane									7.3 (126)
Hexabromobenzene									
2,2',4,4',5,5'-Hexabromodiphenyl									
Hexachlorobenzene	1		1		0 (185)	0.03 (188)			
2,3,3',4,4',5'-Hexachlorobiphenyl									
2,3,3',4,4',5-Hexachlorobiphenyl									
2,3',4,4',5,5'-Hexachlorobiphenyl									
3,3',4,4',5,5'-Hexachlorobiphenyl									
Hexachlorobutadiene									
Hexachlorocyclopentadiene	50		50	8 (68)	50	50			7.7 (126)
Hexachlorodibenzo-p-dioxin									
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
Fluometuron	91	90				(D)			
Fluoranthene	280				(D)				
Fluorene	280				(D)	(D)			
Fluoride	420 (194)	420 (166,194)							
Fluridone	560								
Flurprimidol	140								
Flutolanil	420								
Fluvalinate	70								(189)
Foaming agents (MBAS)									
Folpet	700		1120		10 (B2)			100 (188)	
Fomesafen					0.2 (C)				
Fonofos	14	10				(N,167)			
Formaldehyde	1400	1000 (166)			(B1,119)	(B1,119)		20 (124,188)	
Formic acid									
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole				0.015				0.15 (188)	
Fosetyl-al	2100				(C)				
Furan	7							(188)	
Furfural	21								
Furmecyclox				1.2	1 (B2)			10 (188)	
Gasoline		5 (68,107)		21 (146)					
Glufosinate-ammonium	3								
Glu-P-1				0.0073				0.05 (188)	
Glu-P-2				0.025				0.25 (188)	
Glycidaldehyde	2.8 (147)				(B2)			(188)	
Glycidol								0.2 (68,188)	
Glyphosate	700	14000 (168)			(D)	(D)			
Griseofluvin								25 (68,188)	
Gyromitrin	280 (68)			0.0035				0.035 (188)	
Haloethers									
Halomethanes									
Halothane									(189)
Haloxyfop-methyl	0.35								
Harmony	91								
HC Blue 1				0.69				5 (188)	
Heptachlor	3.5	10 (10-day)		0.0085	0.008 (B2)	0.008 (B2)	0.012	0.1 (188)	(189)
Heptachlor epoxide		10 (24-hr)		0.0064	0.004 (B2)	0.004 (B2)		0.04 (188)	
2,3,3',4,4',5,5'-Heptachlorobiphenyl				0.0027				(188)	
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin				0.000027				(188)	
1,2,3,4,6,7,8-Heptachlorodibenzo-furan				0.000027				(188)	
1,2,3,4,7,8,9-Heptachlorodibenzo-furan				0.000027				(188)	
Heptane					(D)				
Hexabromobenzene	14 (147)								
2,2',4,4',5,5'-Hexabromodiphenyl	1.1 (68)				(I,68)				
Hexachlorobenzene	5.6	50 (10-day)	30 (7-day)	0.019	0.02 (B2)	0.02 (B2)	0.017	0.2 (188)	(189)
2,3,3',4,4',5'-Hexachlorobiphenyl				0.00054				(188)	
2,3,3',4,4',5-Hexachlorobiphenyl				0.00054				(188)	
2,3',4,4',5,5'-Hexachlorobiphenyl				0.027				(188)	
3,3',4,4',5,5'-Hexachlorobiphenyl				0.000027				(188)	
Hexachlorobutadiene		2 (60)			0.5 (C)	0.9 (L)			
Hexachlorocyclopentadiene	42				(E)	(N,166)			
Hexachlorodibenzo-p-dioxin				0.000011 (120)	0.000006 (B2)			0.0001 (188)	
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin				0.0000027				(188)	

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
Fluometuron									
Fluoranthene	300	370				370			
Fluorene	1300	14000				14000			
Fluoride									
Fluridone									
Flurprimidol									
Flutolanil									
Fluvalinate									
Foaming agents (MBAS)									
Folpet									
Fomesafen									
Fonofos									
Formaldehyde									
Formic acid									
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole									
Fosetyl-al									
Furan									
Furfural									
Furmecyclox									
Gasoline									
Glufosinate-ammonium									
Glu-P-1									
Glu-P-2									
Glycidaldehyde									
Glycidol									
Glyphosate									
Griseofluvin									
Gyromitrin									
Haloethers									
Halomethanes									
Halothane									
Haloxyfop-methyl									
Harmony									
HC Blue 1									
Heptachlor	0.00021 (113,188)	0.00021 (113,188)	0.0038 (114)		0.52	0.00021 (113,188)	0.0036 (114)		0.053
Heptachlor epoxide	0.0001 (113,188)	0.00011 (113,188)	0.0038 (114)		0.52	0.00011 (113,188)	0.0036 (114)		0.053
2,3,3',4,4',5,5'-Heptachlorobiphenyl									
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.0000013 (113,144)	0.0000014 (113,144)				0.0000014 (113,144)			
1,2,3,4,6,7,8-Heptachlorodibenzo-furan	0.0000013 (113,144)	0.0000014 (113,144)				0.0000014 (113,144)			
1,2,3,4,7,8,9-Heptachlorodibenzo-furan	0.0000013 (113,144)	0.0000014 (113,144)							
Heptane									
Hexabromobenzene									
2,2',4,4',5,5'-Hexabromodiphenyl									
Hexachlorobenzene	0.00075 (113,188)	0.00077 (113,188)				0.00077 (113,188)			
2,3,3',4,4',5'-Hexachlorobiphenyl									
2,3,3',4,4',5-Hexachlorobiphenyl									
2,3',4,4',5,5'-Hexachlorobiphenyl									
3,3',4,4',5,5'-Hexachlorobiphenyl									
Hexachlorobutadiene	0.44 (113,143)	50 (113,143)				50 (113,143)			
Hexachlorocyclopentadiene	240 (143)	17000 (143)				17000 (143)			
Hexachlorodibenzo-p-dioxin									
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.00000013 (113,144)	0.00000014 (113,144)				0.00000014 (113,144)			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Fluometuron												
Fluoranthene	130	140								3980		
Fluorene	1100	5300										
Fluoride												
Fluridone												
Flurprimidol												
Flutolanil												
Fluvalinate												
Foaming agents (MBAS)												
Folpet												
Fomesafen												
Fonofos												
Formaldehyde												
Formic acid												
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole												
Fosetyl-al												
Furan												
Furfural												
Furmecyclox												
Gasoline												
Glufosinate-ammonium												
Glu-P-1												
Glu-P-2												
Glycidaldehyde												
Glycidol												
Glyphosate												
Griseofluvin												
Gyromitrin												
Haloethers										360	122	
Halomethanes										11000		
Halothane												
Haloxyfop-methyl												
Harmony												
HC Blue 1												
Heptachlor			0.000079 (188)	0.000079 (188)		0.0038 (114)			0.52 (154)			
Heptachlor epoxide			0.000039 (188)	0.000039 (188)		0.0038 (114)			0.52 (154)			
2,3,3',4,4',5,5'-Heptachlorobiphenyl												
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin												
1,2,3,4,6,7,8-Heptachlorodibenzo-furan												
1,2,3,4,7,8,9-Heptachlorodibenzo-furan												
Heptane												
Hexabromobenzene												
2,2',4,4',5,5'-Hexabromodiphenyl										360 (58)	122 (58)	
Hexachlorobenzene			0.00028 (188)	0.00029 (188)						250 (22)		50 (22,23)
2,3,3',4,4',5'-Hexachlorobiphenyl												
2,3,3',4,4',5-Hexachlorobiphenyl												
2,3',4,4',5,5'-Hexachlorobiphenyl												
3,3',4,4',5,5'-Hexachlorobiphenyl												
Hexachlorobutadiene			0.44 (188)	18 (188)						90	9.3	
Hexachlorocyclopentadiene	40	1100			1					7	5.2	
Hexachlorodibenzo-p-dioxin												
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Fluometuron													
Fluoranthene	15										40	16	
Fluorene	0.0088 (33,188)										300 (52)		
Fluoride													
Fluridone													
Flurprimidol													
Flutolanil													
Fluvalinate													
Foaming agents (MBAS)													
Folpet													
Fomesafen													
Fonofos													
Formaldehyde													
Formic acid													
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole													
Fosetyl-al													
Furan													
Furfural													
Furmecyclox													
Gasoline													
Glufosinate-ammonium													
Glu-P-1													
Glu-P-2													
Glycidaldehyde													
Glycidol													
Glyphosate													
Griseofluvin													
Gyromitrin													
Haloethers													
Halomethanes	130 (13,188)										12000	6400	11500 (82)
Halothane													
Haloxyfop-methyl													
Harmony													
HC Blue 1													
Heptachlor	0.00005 (188)						0.0036 (114)			0.053 (154)			
Heptachlor epoxide	0.00002 (188)						0.0036 (114)			0.053 (154)			
2,3,3',4,4',5,5'-Heptachlorobiphenyl													
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.00000039 (76,188)												
1,2,3,4,6,7,8-Heptachlorodibenzo-furan	0.00000039 (76,188)												
1,2,3,4,7,8,9-Heptachlorodibenzo-furan	0.00000039 (76,188)												
Heptane													
Hexabromobenzene													
2,2',4,4',5,5'-Hexabromodiphenyl													
Hexachlorobenzene	0.00021 (188)										160 (22)	129 (22)	
2,3,3',4,4',5'-Hexachlorobiphenyl													
2,3,3',4,4',5-Hexachlorobiphenyl													
2,3',4,4',5,5'-Hexachlorobiphenyl													
3,3',4,4',5,5'-Hexachlorobiphenyl													
Hexachlorobutadiene	14 (188)										32		
Hexachlorocyclopentadiene	58										7		
Hexachlorodibenzo-p-dioxin													
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.000000039 (76,188)												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
Fluometuron	2164-17-2	Cotoron	Cottonex	Lanex
Fluoranthene	206-44-0			[A Polynuclear aromatic hydrocarbon (PAH)]
Fluorene	86-73-7			[A Polynuclear aromatic hydrocarbon (PAH)]
Fluoride	16984-48-8	F-	Fluorine, soluble	
Fluridone	59756-60-4	Sonar		
Flurprimidol	56425-91-3	Cutlass		
Flutolanil	66332-96-5	Moncut		
Fluvalinate	69409-94-5	Mavrik		
Foaming agents (MBAS)		Methylene blue active substances	MBAS	
Folpet	133-07-3	Folpan		
Fomesafen	72178-02-0			
Fonofos	944-22-9	Difonate	Dyfonate	Dyphonate
Formaldehyde	50-00-0	Methanal		
Formic acid	64-18-6			
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	3570-75-0	Nifurthiazole	FNT	
Fosetyl-al	39148-24-8	Aliette		
Furan	110-00-9	Furfuran		
Furfural	98-01-1			
Furmecyclox	60568-05-0	Epic 500	Campogran	Furmetamide
Gasoline	8006-61-9			[A petroleum hydrocarbon]
Glufosinate-ammonium	77182-82-2	Hoe 39866	Basta	
Glu-P-1	67730-11-4	2-Amino-6-methyldipyrido[1,2-a:3',2'-d]-imidazole		
Glu-P-2	67730-10-3	2-Aminopyrido[1,2-a:3',2'-d]-imidazole		
Glycidaldehyde	765-34-4			
Glycidol	556-52-5			
Glyphosate	1071-83-6	Roundup	Glyphosate isopropylamine salt	Rodeo
Griseofluvin	126-07-8			
Gyromitrin	16568-02-8	Acetaldehyde methylformylhydrazone		
Haloethers		Ethers, halo-		
Halomethanes		Methanes, halo-		
Halothane	151-67-7	2-Bromo-2-chloro-1,1,1-trifluoroethane		
Haloxyfop-methyl	69806-40-2	Verdict		
Harmony	79277-27-3	DPX-M6316		
HC Blue 1	2784-94-3			
Heptachlor	76-44-8			
Heptachlor epoxide	1024-57-3			
2,3,3',4,4',5,5'-Heptachlorobiphenyl	39635-31-9	PCB 189	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzodioxin	1,2,3,4,6,7,8-HpCDD	[A Dioxin or dioxin-like compound]
1,2,3,4,6,7,8-Heptachlorodibenzo-furan	67562-39-4	1,2,3,4,6,7,8-HpCDF	[A Dioxin or dioxin-like compound]	
1,2,3,4,7,8,9-Heptachlorodibenzo-furan	55673-89-7	1,2,3,4,7,8,9-HpCDF	[A Dioxin or dioxin-like compound]	
Heptane	142-82-5			
Hexabromobenzene	87-82-1			
2,2',4,4',5,5'-Hexabromodiphenyl	68631-49-2	BDE-153	PBDE-153	
Hexachlorobenzene	118-74-1	Perchlorobenzene	HCB	
2,3,3',4,4',5'-Hexachlorobiphenyl	69782-90-7	PCB 157	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
2,3,3',4,4',5-Hexachlorobiphenyl	38380-08-4	PCB 156	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
2,3',4,4',5,5'-Hexachlorobiphenyl	52663-72-6	PCB 167	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
3,3',4,4',5,5'-Hexachlorobiphenyl	32774-16-6	PCB 169	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
Hexachlorobutadiene	87-68-3	Perchlorobutadiene	HCBD	
Hexachlorocyclopentadiene	77-47-4	HEX	HCCPD	
Hexachlorodibenzo-p-dioxin	19408-74-3	HxCDD		
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzodioxin	1,2,3,4,7,8-HxCDD	[A Dioxin or dioxin-like compound]

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin									
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin									
1,2,3,4,7,8-Hexachlorodibenzo-furan									
1,2,3,7,8,9-Hexachlorodibenzo-furan									
1,2,3,6,7,8-Hexachlorodibenzo-furan									
2,3,4,6,7,8-Hexachlorodibenzo-furan									
Hexachloroethane									10 (126)
Hexachlorophene									
Hexamethylphosphoramide									
n-Hexane									6.4 (126)
Hexazinone									
HMX							350 / 3500 (191)		
Hydrazine									160000 (126)
Hydrazine sulfate									
Hydrogen selenide									2.1 (126)
Hydrogen sulfide									0.029 (126)
Imazalil									
Imazaquin									
Indene									0.26 (126)
Indeno(1,2,3-c,d)pyrene									
Iodide									
Iodoform									11 (126)
Iprodione									
IQ									
Iron		300		300				5000	
Isoamyl acetate									17 (126)
Isoamyl alcohol									270 (126)
Isobutyl acetate									150 (126)
Isobutyl alcohol									10000 (126)
Isobutyl nitrite									
Isophorone									5400 (126)
Isopropalin									
Isopropanol									160000 (126)
Isopropyl acetate									1000 (126)
Isopropylamine									4900 (126)
Isopropyl ether									0.8 (126)
Isopropyl methyl phosphonic acid									
Isoxaben									
Kepone									
Kerosene									100 (49)
Lactofen									
Lasiocarpine									
Lead	15 (111)		15 (111)		0 (185)	2		5000	
Lead acetate									
Lead phosphate									
Lead subacetate									
Linuron									
Londax									
Malathion							160 / 1600 (191)		
Maleic anhydride									
Maleic hydrazide									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin				0.0000027				(188)	
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin				0.0000027				(188)	
1,2,3,4,7,8-Hexachlorodibenzo-furan				0.0000027				(188)	
1,2,3,7,8,9-Hexachlorodibenzo-furan				0.0000027				(188)	
1,2,3,6,7,8-Hexachlorodibenzo-furan				0.0000027				(188)	
2,3,4,6,7,8-Hexachlorodibenzo-furan				0.0000027				(188)	
Hexachloroethane	0.7	1		0.9	3 (C)	3 (C,166)		10 (188)	
Hexachlorophene	2		7						
Hexamethylphosphoramide								0.005 (68,188)	(189)
n-Hexane		4000 (10-day)			(I)	(I)			
Hexazinone	230	400 (167)				(D)			
HMX	350	400			(D)	(D)			
Hydrazine				0.012	0.01 (B2)			0.02 (188)	
Hydrazine sulfate				0.012	0.01 (B2)			0.1 (188)	
Hydrogen selenide									
Hydrogen sulfide									
Imazalil	91								
Imazaquin	1800								
Indene									
Indeno(1,2,3-c,d)pyrene				0.04 (93)	(B2)	(B2)		(188)	
Iodide			1190						
Iodoform									
Iprodione	280							(188)	
IQ				0.025				0.25 (188)	
Iron									
Isoamyl acetate									
Isoamyl alcohol									
Isobutyl acetate									
Isobutyl alcohol	2100								
Isobutyl nitrite								3.7 (188)	
Isophorone	140	100			40 (C)	40 (C)			
Isopropalin	100								
Isopropanol									
Isopropyl acetate									
Isopropylamine									
Isopropyl ether									
Isopropyl methyl phosphonic acid	700 (147)	700			(D)	(D)			
Isoxaben	35				(C)				
Kepone				0.0022			0.011	0.02 (188)	(189)
Kerosene		100 (10-day,49)							
Lactofen	14							2 (68,188)	
Lasiocarpine				0.0045				0.045 (188)	
Lead				4.1	(B2)	(B2)		7.5 (188)	0.25 (189)
Lead acetate				0.13	(B2)			11.5 (188)	
Lead phosphate								29 (188)	
Lead subacetate				0.92				20.5 (188)	
Linuron	1.4				(C)				230 (189)
Londax	1400								
Malathion	140	100	160			(D)			
Maleic anhydride	700								
Maleic hydrazide	3500	4000				(D)			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average) aquatic organism consumption only	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum		Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.00000013 (113,144)	0.00000014 (113,144)				0.00000014 (113,144)			
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.00000013 (113,144)	0.00000014 (113,144)				0.00000014 (113,144)			
1,2,3,4,7,8-Hexachlorodibenzo-furan	0.00000013 (113,144)	0.00000014 (113,144)				0.00000014 (113,144)			
1,2,3,7,8,9-Hexachlorodibenzo-furan	0.00000013 (113,144)	0.00000014 (113,144)				0.00000014 (113,144)			
1,2,3,6,7,8-Hexachlorodibenzo-furan	0.00000013 (113,144)	0.00000014 (113,144)				0.00000014 (113,144)			
2,3,4,6,7,8-Hexachlorodibenzo-furan	0.00000013 (113,144)	0.00000014 (113,144)				0.00000014 (113,144)			
Hexachloroethane	1.9 (113,143)	8.9 (113,143)				8.9 (113,143)			
Hexachlorophene									
Hexamethylphosphoramide									
n-Hexane									
Hexazinone									
HMX									
Hydrazine									
Hydrazine sulfate									
Hydrogen selenide									
Hydrogen sulfide									
Imazalil									
Imazaquin									
Indene									
Indeno(1,2,3-c,d)pyrene	0.0044 (113,188)	0.049 (113,188)				0.049 (113,188)			
Iodide									
Iodoform									
Iprodione									
IQ									
Iron									
Isoamyl acetate									
Isoamyl alcohol									
Isobutyl acetate									
Isobutyl alcohol									
Isobutyl nitrite									
Isophorone	8.4 (113,143)	600 (113,143)				600 (113,143)			
Isopropalin									
Isopropanol									
Isopropyl acetate									
Isopropylamine									
Isopropyl ether									
Isopropyl methyl phosphonic acid									
Isoxaben									
Kepone									
Kerosene									
Lactofen									
Lasiocarpine									
Lead			see page 24 (1,142)	see page 24 (1,142)			8.1 (1,142)	210 (1,142)	
Lead acetate									
Lead phosphate									
Lead subacetate									
Linuron									
Londax									
Malathion									
Maleic anhydride									
Maleic hydrazide									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin												
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin												
1,2,3,4,7,8-Hexachlorodibenzo-furan												
1,2,3,7,8,9-Hexachlorodibenzo-furan												
1,2,3,6,7,8-Hexachlorodibenzo-furan												
2,3,4,6,7,8-Hexachlorodibenzo-furan												
Hexachloroethane			1.4 (188)	3.3 (188)						980	540	
Hexachlorophene												
Hexamethylphosphoramide												
n-Hexane												
Hexazinone												
HMX												
Hydrazine												
Hydrazine sulfate												
Hydrogen selenide												
Hydrogen sulfide									2 (51)			
Imazalil												
Imazaquin												
Indene												
Indeno(1,2,3-c,d)pyrene			0.0038 (113)	0.018 (113)								
Iodide												
Iodoform										11000 (20)		
Iprodione												
IQ												
Iron					300 (51)	1000 (51)						
Isoamyl acetate												
Isoamyl alcohol												
Isobutyl acetate												
Isobutyl alcohol												
Isobutyl nitrite												
Isophorone			35 (188)	960 (188)						117000		
Isopropalin												
Isopropanol												
Isopropyl acetate												
Isopropylamine												
Isopropyl ether												
Isopropyl methyl phosphonic acid												
Isoxaben												
Kepone												
Kerosene												
Lactofen												
Lasiocarpine												
Lead						see page 24 (1)		see page 24 (1)				
Lead acetate												
Lead phosphate												
Lead subacetate												
Linuron												
Londax												
Malathion								0.43 (151)	0.1 (51)			
Maleic anhydride												
Maleic hydrazide												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000000039 (76,188)												
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000000039 (76,188)												
1,2,3,4,7,8-Hexachlorodibenzo-furan	0.000000039 (76,188)												
1,2,3,7,8,9-Hexachlorodibenzo-furan	0.000000039 (76,188)												
1,2,3,6,7,8-Hexachlorodibenzo-furan	0.000000039 (76,188)												
2,3,4,6,7,8-Hexachlorodibenzo-furan	0.000000039 (76,188)												
Hexachloroethane	2.5 (188)										940		
Hexachlorophene													
Hexamethylphosphoramide													
n-Hexane													
Hexazinone													
HMX													
Hydrazine													
Hydrazine sulfate													
Hydrogen selenide													
Hydrogen sulfide										2 (51)			
Imazalil													
Imazaquin													
Indene													
Indeno(1,2,3-c,d)pyrene	0.0088 (33,188)										300 (52)		
Iodide													
Iodoform											12000 (20)	6400 (20)	11500 (20,82)
Iprodione													
IQ													
Iron													
Isoamyl acetate													
Isoamyl alcohol													
Isobutyl acetate													
Isobutyl alcohol													
Isobutyl nitrite													
Isophorone	730 (188)										12900		
Isopropalin													
Isopropanol													
Isopropyl acetate													
Isopropylamine													
Isopropyl ether													
Isopropyl methyl phosphonic acid													
Isoxaben													
Kepone													
Kerosene													
Lactofen													
Lasiocarpine													
Lead		2			8	20	8.1 (1)		210 (1)				
Lead acetate													
Lead phosphate													
Lead subacetate													
Linuron													
Londax													
Malathion									0.34 (152)	0.1 (51)			
Maleic anhydride													
Maleic hydrazide													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzodioxin	1,2,3,6,7,8-HxCDD	[A Dioxin or dioxin-like compound]
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzodioxin	1,2,3,7,8,9-HxCDD	[A Dioxin or dioxin-like compound]
1,2,3,4,7,8-Hexachlorodibenzo-furan	70648-26-9	1,2,3,4,7,8-HxCDF	[A Dioxin or dioxin-like compound]	
1,2,3,7,8,9-Hexachlorodibenzo-furan	72918-21-9	1,2,3,7,8,9-HxCDF	[A Dioxin or dioxin-like compound]	
1,2,3,6,7,8-Hexachlorodibenzo-furan	57117-44-9	2,3,4,7,8,9-Hexachlorodibenzofuran	1,2,3,6,7,8-HxCDF	[A Dioxin or dioxin-like compound]
2,3,4,6,7,8-Hexachlorodibenzo-furan	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,6,7,8-HxCDF	[A Dioxin or dioxin-like compound]
Hexachloroethane	67-72-1	Perchloroethane		
Hexachlorophene	70-30-4			
Hexamethylphosphoramide	680-31-9			
n-Hexane	110-54-3			
Hexazinone	51235-04-2	Velpar		
HMX	2691-41-0	Cyclotetramethylene tetranitramine	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	
Hydrazine	302-01-2	H2NNH2	Diamine	
Hydrazine sulfate	10034-93-2			
Hydrogen selenide	7783-07-5	H2Se		
Hydrogen sulfide	7783-06-4	H2S		
Imazalil	35554-44-0			
Imazaquin	81335-37-7	Scepter		
Indene	95-13-6			
Indeno(1,2,3-c,d)pyrene	193-39-5			[A Polynuclear aromatic hydrocarbon (PAH)]
Iodide	20461-54-5	I-		
Iodoform	75-47-8	Triiodomethane		
Iprodione	36734-19-7	Rovral		
IQ	76180-96-6	2-Amino-3-methylimidazo[4,5-f]quinoline		
Iron	7439-89-6	Fe		
Isoamyl acetate	123-92-2			
Isoamyl alcohol	123-51-3	3-Methyl-1-butanol	Isobutyl carbinol	
Isobutyl acetate	110-19-0			
Isobutyl alcohol	78-83-1	Isobutanol		
Isobutyl nitrite	542-56-3	IBN	Nitrous acid, isobutyl ester	
Isophorone	78-59-1			
Isopropalin	33820-53-0			
Isopropanol	67-63-0	Isopropyl alcohol		
Isopropyl acetate	108-21-4			
Isopropylamine	75-31-0	2-Aminopropane		
Isopropyl ether	108-20-3	Di-isopropyl ether	DIPE	
Isopropyl methyl phosphonic acid	1832-54-8	IMPA	Isopropyl methylphosphonic acid	Isopropyl methylphosphonate
Isoxaben	82558-50-7	EL-107		
Kepone	143-50-0	Chlordecone		
Kerosene	8008-20-6	Kerosine	Fuel oil #1	[A petroleum hydrocarbon]
Lactofen	77501-63-4	Cobra		
Lasiocarpine	303-34-4			
Lead	7439-92-1	Pb		
Lead acetate	301-04-2	Sugar of lead		
Lead phosphate	7446-27-7	Lead orthophosphate	Trilead phosphate	
Lead subacetate	1335-32-6	Basic lead acetate	BLA	
Linuron	330-55-2			
Londax	83055-99-6	DPX-F5384		
Malathion	121-75-5	Cythion		
Maleic anhydride	108-31-6			
Maleic hydrazide	123-33-1	Antergon	Chemform	Retard

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
Maneb									
Manganese		50		50			500 / 5000 (191)	200	
MCPA									
MCPB									
MCPP									
Me-A-alpha-C									
MeIQ									
MeIQx									
Melphalan									
Mepiquat chloride									
Mercuric chloride									
Mercury (inorganic)	2		2		2	1.2 (147)			
Mercury (total, including organic compounds)									
Merphos									
Merphos oxide									
Mesityl oxide									1000 (126)
Metalaxyl									
Methacrylonitrile									2100 (126)
Methamidophos									
Methanol									740000 (126)
Methidathion									
Methomyl									
Methoxychlor	30		40		40	30 (189)			4700 (125)
2-Methoxyethanol									
2-Methoxyethyl acetate									
Methyl acetate									3000 (126)
Methyl acrylate									2.1 (126)
Methylamine									2400 (126)
Methyl n-amyl ketone									280 (126)
N-Methylaniline									18000 (126)
Methyl t-butyl ether (MtBE)	13	5				13 (188)			20 / 40 (10,30)
Methyl n-butyl ketone									250 (126)
Methyl carbamate									
3-Methylcholanthrene									
5-Methylchrysene									
Methylcyclohexane									150 (126)
cis-3-Methylcyclohexanol									6000000 (126)
N-Methyl dithiocarbamate							20 / 200 (191)		
4,4'-Methylenebis(2-chloroaniline)									
4,4'-Methylenebis(N,N-dimethyl) aniline									
4,4'-Methylenebis(2-methylaniline)									
4,4'-Methylenedianiline									
Methyl ethyl ketone									8400 (126)
Methyl formate									150000 (126)
Methylhydrazine									
Methylhydrazine sulfate									
Methyl isoamyl ketone									13 (126)
Methyl isobutyl carbinol									150 (126)
Methyl isobutyl ketone (MIBK)							120 / 1200 (191)		1300 (126)
Methyl isopropyl ketone									3100 (126)
Methylisothiocyanate							50 / 500 (191)		
Methyl mercaptan									0.024 (126)
Methyl mercury									
Methyl methacrylate									25 (126)
Methyl methanesulfonate									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
Maneb	35		35					(188)	
Manganese	980	300			(D)	(D)			
MCPA	3.5	30 (167)	8.75			(N,167)			
MCPB	70								
MCPP	7								
Me-A-alpha-C				0.029				0.3 (188)	
MeIQ								0.23 (188)	
MeIQx								0.205 (188)	
Melphalan				0.00027				0.0025 (188)	(189)
Mepiquat chloride	210								
Mercuric chloride	0.2				(C)				(189)
Mercury (inorganic)		2 (196)				(D)			(189)
Mercury (total, including organic compounds)									(189)
Merphos	0.2								
Merphos oxide	0.2								
Mesityl oxide									
Metalaxyl	420								
Methacrylonitrile	0.7								
Methamidophos	0.35								
Methanol	3500								
Methidathion	0.7				(C)				
Methomyl	180	200	175			(E)			
Methoxychlor	35	40 (166)	700		(D)	(D)			
2-Methoxyethanol									32 (189)
2-Methoxyethyl acetate									49 (189)
Methyl acetate									
Methyl acrylate					(D)				
Methylamine									
Methyl n-amyl ketone									
N-Methylaniline									
Methyl t-butyl ether (MtBE)		20 / 40 (10,30)		19					
Methyl n-butyl ketone									
Methyl carbamate								80 (188)	
3-Methylcholanthrene				0.0016				0.015 (188)	
5-Methylchrysene				0.004 (93)				0.0042 (188)	
Methylcyclohexane									
cis-3-Methylcyclohexanol									
N-Methyl dithiocarbamate									
4,4'-Methylenebis(2-chloroaniline)				0.023				0.25 (188)	
4,4'-Methylenebis(N,N-dimethyl) aniline				0.76	0.8 (B2,147)			10 (188)	
4,4'-Methylenebis(2-methylaniline)				0.038				0.4 (188)	
4,4'-Methylenedianiline				0.022 / 0.029 (174)				0.2 / 0.3 (174,188)	
Methyl ethyl ketone	4200	4000 (166)			(D)	(D)			
Methyl formate									
Methylhydrazine								0.029 (188)	
Methylhydrazine sulfate								0.09 (188)	
Methyl isoamyl ketone									
Methyl isobutyl carbinol									
Methyl isobutyl ketone (MIBK)					(D)				
Methyl isopropyl ketone									
Methylisothiocyanate									
Methyl mercaptan									
Methyl mercury	0.07				(C)			(188)	0.15 (68,189)
Methyl methacrylate	9800 (147)		800		(E)				
Methyl methanesulfonate				0.35				3.5 (188)	

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
Maneb									
Manganese									
MCPA									
MCPB									
MCPP									
Me-A-alpha-C									
MeIQ									
MeIQx									
Melphalan									
Mepiquat chloride									
Mercuric chloride									
Mercury (inorganic)									
Mercury (total, including organic compounds)	0.05 (2,142)	0.051 (2,142)				0.051 (2,142)			
Merphos									
Merphos oxide									
Mesityl oxide									
Metalaxyl									
Methacrylonitrile									
Methamidophos									
Methanol									
Methidathion									
Methomyl									
Methoxychlor									
2-Methoxyethanol									
2-Methoxyethyl acetate									
Methyl acetate									
Methyl acrylate									
Methylamine									
Methyl n-amyl ketone									
N-Methylaniline									
Methyl t-butyl ether (MtBE)									
Methyl n-butyl ketone									
Methyl carbamate									
3-Methylcholanthrene									
5-Methylchrysene									
Methylcyclohexane									
cis-3-Methylcyclohexanol									
N-Methyl dithiocarbamate									
4,4'-Methylenebis(2-chloroaniline)									
4,4'-Methylenebis(N,N-dimethyl) aniline									
4,4'-Methylenebis(2-methylaniline)									
4,4'-Methylenedianiline									
Methyl ethyl ketone									
Methyl formate									
Methylhydrazine									
Methylhydrazine sulfate									
Methyl isoamyl ketone									
Methyl isobutyl carbinol									
Methyl isobutyl ketone (MIBK)									
Methyl isopropyl ketone									
Methylisothiocyanate									
Methyl mercaptan									
Methyl mercury									
Methyl methacrylate									
Methyl methanesulfonate									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Maneb												
Manganese		100 (51)			50 (51)							
MCPA												
MCPB												
MCPP												
Me-A-alpha-C												
MeIQ												
MeIQx												
Melphalan												
Mepiquat chloride												
Mercuric chloride												
Mercury (inorganic)												
Mercury (total, including organic compounds)						0.77 (1,140)		1.4 (1,140)				
Merphos												
Merphos oxide												
Mesityl oxide												
Metalaxyl												
Methacrylonitrile												
Methamidophos												
Methanol												
Methidathion												
Methomyl						0.52 (151)		5.5 (151)				
Methoxychlor	100 (51)								0.03 (51)			
2-Methoxyethanol												
2-Methoxyethyl acetate												
Methyl acetate												
Methyl acrylate												
Methylamine												
Methyl n-amyl ketone												
N-Methylaniline												
Methyl t-butyl ether (MtBE)						51000		151000				
Methyl n-butyl ketone												
Methyl carbamate												
3-Methylcholanthrene												
5-Methylchrysene												
Methylcyclohexane												
cis-3-Methylcyclohexanol												
N-Methyl dithiocarbamate												
4,4'-Methylenebis(2-chloroaniline)												
4,4'-Methylenebis(N,N-dimethyl) aniline												
4,4'-Methylenebis(2-methylaniline)												
4,4'-Methylenedianiline												
Methyl ethyl ketone												
Methyl formate												
Methylhydrazine												
Methylhydrazine sulfate												
Methyl isoamyl ketone												
Methyl isobutyl carbinol												
Methyl isobutyl ketone (MIBK)												
Methyl isopropyl ketone												
Methylisothiocyanate												
Methyl mercaptan												
Methyl mercury	0.3 mg/kg (161)	0.3 mg/kg (161)										
Methyl methacrylate												
Methyl methanesulfonate												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Maneb													
Manganese													
MCPA													
MCPB													
MCPP													
Me-A-alpha-C													
MeIQ													
MeIQx													
Melphalan													
Mepiquat chloride													
Mercuric chloride													
Mercury (inorganic)													
Mercury (total, including organic compounds)		0.04			0.16	0.4	0.94 (1,140)		1.8 (1,140)				
Merphos													
Merphos oxide													
Mesityl oxide													
Metalaxyl													
Methacrylonitrile													
Methamidophos													
Methanol													
Methidathion													
Methomyl													
Methoxychlor										0.03 (51)			
2-Methoxyethanol													
2-Methoxyethyl acetate													
Methyl acetate													
Methyl acrylate													
Methylamine													
Methyl n-amyl ketone													
N-Methylaniline													
Methyl t-butyl ether (MtBE)							18000		53000				
Methyl n-butyl ketone													
Methyl carbamate													
3-Methylcholanthrene													
5-Methylchrysene													
Methylcyclohexane													
cis-3-Methylcyclohexanol													
N-Methyl dithiocarbamate													
4,4'-Methylenebis(2-chloroaniline)													
4,4'-Methylenebis(N,N-dimethyl) aniline													
4,4'-Methylenebis(2-methylaniline)													
4,4'-Methylenedianiline													
Methyl ethyl ketone													
Methyl formate													
Methylhydrazine													
Methylhydrazine sulfate													
Methyl isoamyl ketone													
Methyl isobutyl carbinol													
Methyl isobutyl ketone (MIBK)													
Methyl isopropyl ketone													
Methylisothiocyanate													
Methyl mercaptan													
Methyl mercury													
Methyl methacrylate													
Methyl methanesulfonate													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
Maneb	12427-38-2	Dithane M-22	Manzate	
Manganese	7439-96-5	Mn		
MCPA	94-74-6	2-Methyl-4-chlorophenoxyacetic acid	4(Chloro-2-methoxyphenoxy)acetic acid	
MCPB	94-81-5	4-(2-Methyl-4-chlorophenoxy)butyric acid		
MCPP	93-65-2	2-(2-Methyl-4-chlorophenoxy)propionic acid	Mecoprop	
Me-A-alpha-C	68006-83-7	2-Amino-3-methyl-9H-pyrido-[2,3-b]indole		
MeIQ	77094-11-2	2-Amino-3,4-dimethylimidazo(4,5-f)quinoline		
MeIQx	77500-04-0	2-Amino-3,8-dimethylimidazo(4,5-f)quinoxaline		
Melphalan	148-82-3	Alanine nitrogen mustard	Alkeran	
Mepiquat chloride	24307-26-4			
Mercuric chloride	7487-94-7	HgCl2		
Mercury (inorganic)	7439-97-6	Hg (inorganic)		
Mercury (total, including organic compounds)	7439-97-6	Hg (total)		
Merphos	150-50-5	Tribufos	Folex 6EC	
Merphos oxide	78-48-8	Butiphos		
Mesityl oxide	141-79-7	Methyl isobutenyl ketone		
Metalaxyl	57837-19-1	Subdue		
Methacrylonitrile	126-98-7	2-Cyanopropene	2-Methyl acrylonitrile	
Methamidophos	10265-92-6	Monitor		
Methanol	67-56-1	Methyl alcohol		
Methidathion	950-37-8			
Methomyl	16752-77-5	Lannate		
Methoxychlor	72-43-5			
2-Methoxyethanol	109-86-4	Ethylene glycol monomethyl ether	EGME	Methyl cellosolve
2-Methoxyethyl acetate	110-49-6	Ethylene glycol monomethyl ether acetate	2-Methoxyethanol acetate	EGMEA
Methyl acetate	79-20-9			
Methyl acrylate	96-33-3			
Methylamine	74-89-5	Aminomethane		
Methyl n-amyl ketone	110-43-0	2-Heptanone		
N-Methylaniline	100-61-8			
Methyl t-butyl ether (MtBE)	1634-04-4	MtBE	2-Methoxy-2-methylpropane	Methyl 1,1-dimethylethyl ether
Methyl n-butyl ketone	591-78-6	2-Hexanone		
Methyl carbamate	598-55-0	Carbamic acid, methyl ester	Methylurethane	
3-Methylcholanthrene	56-49-5			
5-Methylchrysene	3697-24-3			
Methylcyclohexane	108-87-2			
cis-3-Methylcyclohexanol	25639-42-3			
N-Methyl dithiocarbamate	137-42-8	Metam sodium	Vapam	Metham
4,4'-Methylenebis(2-chloroaniline)	101-14-4			
4,4'-Methylenebis(N,N-dimethyl) aniline	101-61-1	4,4'-Methylenebis(N,N-dimethyl)benzeneamine	Bis(p-(dimethylanino)phenyl)methane	Michler's methane
4,4'-Methylenebis(2-methylaniline)	838-88-0	Methylenebis(ortho-toluidine)		
4,4'-Methylenedianiline	101-77-9			
Methyl ethyl ketone	78-93-3	2-Butanone	MEK	
Methyl formate	107-31-3			
Methylhydrazine	60-34-4			
Methylhydrazine sulfate	302-15-8			
Methyl isoamyl ketone	110-12-3	MIAK	5-Methyl-2-hexanone	
Methyl isobutyl carbinol	108-11-2	Methylamyl alcohol	MIBC	4-Methyl-2-pentanol
Methyl isobutyl ketone (MIBK)	108-10-1	4-Methyl-2-pentanone	MIBK	
Methyl isopropyl ketone	563-80-4	3-Methyl-2-butanone		
Methylisothiocyanate	556-61-6	MITC	Vorlex component	
Methyl mercaptan	74-93-1	Methanethiol		
Methyl mercury	22967-92-6	Mercury, methyl	MeHg	
Methyl methacrylate	80-62-6			
Methyl methanesulfonate	66-27-3	MMS		

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
2-Methylnaphthalene									
2-Methyl-1-nitroanthraquinone									
N-Methyl-N'-nitro-N-nitroso-guanidine									
N-Methylolacrylamide									
Methyl parathion							2 / 20 (191)		
Methyl n-propyl ketone									15000 (126)
alpha-Methylstyrene									43 (126)
Methylthiouracil									
Metolachlor									
Metribuzin									
Metronidazole									
Michler's ketone									
Mirex									
Mitomycin C									
Molinate	20								
Molybdenum								10	
Monocrotaline									
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone									
MX									
Naled									
Nalidixic acid									
Naphthalene							17 / 170 (191)		21 (126)
2-Naphthylamine									
Napropamide									
Nickel	100					12 (189)		200	
Nickel carbonyl									0.072 (126)
Nickel subsulfide									
Nitralin									
Nitrate	45000 (72)		10000 (103)		10000 (89)	10000 (103)			
Nitrilotriacetate, trisodium monohydrate									
Nitrilotriacetic acid									
Nitrite	1000 (103)		1000 (103)		1000 (89)	1000 (103)			
5-Nitroacenaphthene									
5-Nitro-o-anisidine									
Nitrobenzene									110 (126)
6-Nitrochrysene									
Nitroethane									220 (126)
Nitrofen									
2-Nitrofluorene									
Nitrofurazone									
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone									
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide									
Nitroguanidine									
Nitromethane									9100 (126)
Nitrophenol									
2-Nitrophenol									
4-Nitrophenol									
Nitrophenols									
1-Nitropropane									12000 (126)
2-Nitropropane									53000 (126)
1-Nitropyrene									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
2-Methylnaphthalene	28				(D)				
2-Methyl-1-nitroanthraquinone				0.0081				0.1 (188)	
N-Methyl-N'-nitro-N-nitroso-guanidine				0.0042				0.04 (188)	
N-Methylolacrylamide								1 (68,188)	
Methyl parathion	1.8	1 (167)	30			(N,167)			
Methyl n-propyl ketone									
alpha-Methylstyrene									
Methylthiouracil				0.088				1 (188)	
Metolachlor	110	70 (167)			(C)	(C,167)			
Metribuzin	175	70 (167)			(D)	(D,167)			
Metronidazole								2 (68,188)	
Michler's ketone				0.041				0.4 (188)	
Mirex	1.4 / 3.5 (68)			0.0019	0.1 (B2,68)	0.0049 (8)		0.02 (188)	
Mitomycin C				0.0000043				0.000045 (188)	
Molinate	14								
Molybdenum	35	40 (68)				(D,68)			
Monocrotaline				0.0035				0.035 (188)	
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone								0.09 (188)	
MX								0.055 (188)	
Naled	14								
Nalidixic acid								14 (188)	
Naphthalene	140	100 (166)			(68,197)	(I,166)		2.9 (188)	
2-Naphthylamine				0.019				0.2 (188)	
Napropamide	700								
Nickel	140	100		(15)				(15,188)	
Nickel carbonyl					(B2)			(15,188)	(189)
Nickel subsulfide				0.021	(A)			(15,188)	
Nitralin			700						
Nitrate	11000 (89)	10000 (10-day,89)							
Nitrilotriacetate, trisodium monohydrate				3.5				35 (188)	
Nitrilotriacetic acid				6.6				50 (188)	
Nitrite	700	1000 (10-day,89)							
5-Nitroacenaphthene				0.27				3 (188)	
5-Nitro-o-anisidine				0.71				5 (188)	
Nitrobenzene	3.5		5 (7-day)		(D)			(188)	
6-Nitrochrysene				0.0004 (93)				0.001 (68,188)	
Nitroethane									
Nitrofen				0.43 (177)			0.0089	4.5 (177,188)	
2-Nitrofluorene				0.4 (93)				0.045 (68,188)	
Nitrofurazone				0.027				0.25 (188)	
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone				0.019				0.2 (188)	
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide				0.023				0.25 (188)	
Nitroguanidine	700	700			(D)	(D)			
Nitromethane									
Nitrophenol			290 (7-day)						
2-Nitrophenol			290 (7-day,37)						
4-Nitrophenol		60	290 (7-day,37)			(D)			
Nitrophenols									
1-Nitropropane									
2-Nitropropane								(188)	
1-Nitropyrene				0.04 (93)				0.3 (68,188)	

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
2-Methylnaphthalene									
2-Methyl-1-nitroanthraquinone									
N-Methyl-N'-nitro-N-nitroso-guanidine									
N-Methylolacrylamide									
Methyl parathion									
Methyl n-propyl ketone									
alpha-Methylstyrene									
Methylthiouracil									
Metolachlor									
Metribuzin									
Metronidazole									
Michler's ketone									
Mirex									
Mitomycin C									
Molinate									
Molybdenum									
Monocrotaline									
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone									
MX									
Naled									
Nalidixic acid									
Naphthalene									
2-Naphthylamine									
Napropamide									
Nickel	610 (2,142)	4600 (2,142)	see page 25 (1,142)	see page 25 (1,142)		4600 (2,142)	8.2 (1,142)	74 (1,142)	
Nickel carbonyl									
Nickel subsulfide									
Nitralin									
Nitrate									
Nitrilotriacetate, trisodium monohydrate									
Nitrilotriacetic acid									
Nitrite									
5-Nitroacenaphthene									
5-Nitro-o-anisidine									
Nitrobenzene	17 (143)	1900 (143)				1900 (143)			
6-Nitrochrysene									
Nitroethane									
Nitrofen									
2-Nitrofluorene									
Nitrofurazone									
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone									
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide									
Nitroguanidine									
Nitromethane									
Nitrophenol									
2-Nitrophenol									
4-Nitrophenol									
Nitrophenols									
1-Nitropropane									
2-Nitropropane									
1-Nitropyrene									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
2-Methylnaphthalene												
2-Methyl-1-nitroanthraquinone												
N-Methyl-N'-nitro-N-nitroso-guanidine												
N-Methylolacrylamide												
Methyl parathion									0.08 (152)			
Methyl n-propyl ketone												
alpha-Methylstyrene												
Methylthiouracil												
Metolachlor	44 (8)								100 (8)			
Metribuzin	5250 (8)								100 (8)			
Metronidazole												
Michler's ketone												
Mirex			0.000093 (8)	0.000097 (8)					0.001 (51)			
Mitomycin C												
Molinate									13 (151)			
Molybdenum												
Monocrotaline												
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone												
MX												
Naled												
Nalidixic acid												
Naphthalene										2300	620	
2-Naphthylamine												
Napropamide												
Nickel	610 (2)	4600 (2)				see page 25 (1)		see page 25 (1)				
Nickel carbonyl												
Nickel subsulfide												
Nitralin												
Nitrate	10000 (51,89)											
Nitrilotriacetate, trisodium monohydrate												
Nitrilotriacetic acid												
Nitrite												
5-Nitroacenaphthene												
5-Nitro-o-anisidine												
Nitrobenzene	17	690			30					27000		
6-Nitrochrysene												
Nitroethane												
Nitrofen												
2-Nitrofluorene												
Nitrofurazone												
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone												
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide												
Nitroguanidine												
Nitromethane												
Nitrophenol										230 (88)		150 (38,88)
2-Nitrophenol										230 (88)		150 (38,88)
4-Nitrophenol										230 (88)		150 (38,88)
Nitrophenols										230		150 (38)
1-Nitropropane												
2-Nitropropane												
1-Nitropyrene												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
2-Methylnaphthalene													
2-Methyl-1-nitroanthraquinone													
N-Methyl-N'-nitro-N-nitroso-guanidine													
N-Methylolacrylamide													
Methyl parathion													
Methyl n-propyl ketone													
alpha-Methylstyrene													
Methylthiouracil													
Metolachlor													
Metribuzin													
Metronidazole													
Michler's ketone													
Mirex										0.001 (51)			
Mitomycin C													
Molinate													
Molybdenum													
Monocrotaline													
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone													
MX													
Naled													
Nalidixic acid													
Naphthalene											2350		
2-Naphthylamine													
Napropamide													
Nickel		5			20	50	8.2 (1)		74 (1)				
Nickel carbonyl													
Nickel subsulfide													
Nitralin													
Nitrate													
Nitrilotriacetate, trisodium monohydrate													
Nitrilotriacetic acid													
Nitrite													
5-Nitroacenaphthene													
5-Nitro-o-anisidine													
Nitrobenzene	4.9										6680		
6-Nitrochrysene													
Nitroethane													
Nitrofen													
2-Nitrofluorene													
Nitrofurazone													
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone													
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide													
Nitroguanidine													
Nitromethane													
Nitrophenol		30 (86)			120 (86)	300 (86)					4850 (88)		
2-Nitrophenol		30 (86)			120 (86)	300 (86)					4850 (88)		
4-Nitrophenol		30 (86)			120 (86)	300 (86)					4850 (88)		
Nitrophenols		30 (86)			120 (86)	300 (86)					4850		
1-Nitropropane													
2-Nitropropane													
1-Nitropyrene													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
2-Methylnaphthalene	91-57-6	beta-Methylnaphthalene		
2-Methyl-1-nitroanthraquinone	129-15-7	2-Aminonaphthalene		
N-Methyl-N'-nitro-N-nitroso-guanidine	70-25-7	MNNG		
N-Methylolacrylamide	924-42-5			
Methyl parathion	298-00-0	Parathion-methyl		
Methyl n-propyl ketone	107-87-9	MPK	Ethyl acetone	2-Pentanone
alpha-Methylstyrene	98-83-9			
Methylthiouracil	56-04-2			
Metolachlor	51218-45-2	Dual		
Metribuzin	21087-64-9			
Metronidazole	443-48-1			
Michler's ketone	90-94-8	Tetramethyldiaminobenzophenone		
Mirex	2385-85-5	Dechlorane		
Mitomycin C	50-07-7	Ametycine		
Molinate	2212-67-1	Ordram		
Molybdenum	7439-98-7	Mo		
Monocrotaline	315-22-0	Crotaline		
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone	139-91-3	Furaltadone	Furaltadon	Furmethanol
MX	77439-76-0	3-Chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone		
Naled	300-76-5	Dibrom		
Nalidixic acid	389-08-2	Naladixic acid	Nalidixin	Wintomylon
Naphthalene	91-20-3			
2-Naphthylamine	91-59-8	beta-Naphthylamine		
Napropamide	15299-99-7	Devrinol		
Nickel	7440-02-0	Ni		
Nickel carbonyl	13463-39-3			
Nickel subsulfide	12035-72-2			
Nitralin	4726-14-1	Planavin		
Nitrate	14797-55-8	NO3-		
Nitrilotriacetate, trisodium monohydrate	18662-53-8	Trisodium nitrilotriacetate	NTA	
Nitrilotriacetic acid	139-13-9	NTA	Triglycine	
Nitrite	14797-65-0	NO2-		
5-Nitroacenaphthene	602-87-9			
5-Nitro-o-anisidine	99-59-2	Azoamine scarlet		
Nitrobenzene	98-95-3			
6-Nitrochrysene	7496-02-8			
Nitroethane	79-24-3			
Nitrofen	1836-75-5	Nitrofene	2,4-Dichloro-1-(4-nitrophenoxy)benzene	
2-Nitrofluorene	607-57-8			
Nitrofurazone	59-87-0	Biofurcina	Coxistat	Dermofural
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555-84-0	Nifuradene	NF 246	
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8	Furathiazole	Furium	NFTA
Nitroguanidine	556-88-7			
Nitromethane	75-52-5			
Nitrophenol	25154-55-6	Mononitrophenols		
2-Nitrophenol	25154-55-7	o-Nitrophenol		
4-Nitrophenol	25154-55-8	p-Nitrophenol		
Nitrophenols		Phenols, nitro-		
1-Nitropropane	108-03-2			
2-Nitropropane	79-46-9			
1-Nitropyrene	5522-43-0			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
4-Nitropyrene									
Nitrosamines									
N-Nitrosodi-n-butylamine									
N-Nitrosodiethanolamine									
N-Nitrosodiethylamine							0.01 / 0.1 (191,192)		
N-Nitrosodimethylamine						0.003 (188)	0.01 / 0.2 (39,191)		
N-Nitrosodiphenylamine									
p-Nitrosodiphenylamine									
N-Nitrosodipropylamine							0.01 / 0.5 (191,193)		
N-Nitroso-N-ethylurea									
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone									
N-Nitrosomethylethylamine									
N-Nitroso-N-methylurea									
N-Nitroso-N-methylurethane									
N-Nitrosomethylvinylamine									
N-Nitrosomorpholine									
N-Nitrosonornicotine									
N-Nitrosopiperidine									
N-Nitrosopyrrolidine									
N-Nitrososarcosine									
m-Nitrotoluene									80 (126)
trans-Nonachlor									
Nonane									1.3 (126)
Nonylphenol									
Norflurazon									
NuStar									
Ochratoxin A									
Octabromodiphenyl ether									
Octachlorodibenzo-p-dioxin									
Octachlorodibenzofuran									
Octane									1.7 (126)
Odor		3 threshold units		3 threshold units					
Oil and Grease									
Oryzalin									
Osmium tetroxide									12 (126)
Oxadiazon									
Oxamyl	50		200		200	50			
Oxychlordane									
Oxyfluorfen									
Oxygen, dissolved									
Ozone									0.28 (126)
Paclobutrazol									
PAHs									
Paraquat									
Parathion							40 / 400 (191)		
Pendimethalin									
Pentabromodiphenyl ether									
2,2',4,4',5-Pentabromodiphenyl ether									
Pentachlorobenzene									
2,3,3',4,4'-Pentachlorobiphenyl									
2,3,4,4',5-Pentachlorobiphenyl									
2',3,4,4',5-Pentachlorobiphenyl									
2,3',4,4',5-Pentachlorobiphenyl									
3,3',4,4',5-Pentachlorobiphenyl									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
4-Nitropyrene				0.04 (93)				0.015 (68,188)	
Nitrosamines									
N-Nitrosodi-n-butylamine				0.0032	0.006 (B2,121)	0.0064		0.03 (188)	
N-Nitrosodiethanolamine				0.013	0.01 (B2)			0.15 (188)	
N-Nitrosodiethylamine				0.00097	0.0002 (B2)			0.01 (188)	
N-Nitrosodimethylamine				0.0022	0.0007 (B2)			0.02 (188)	
N-Nitrosodiphenylamine				3.9	7 (B2)			40 (188)	
p-Nitrosodiphenylamine				1.6	(B2)			15 (188)	
N-Nitrosodipropylamine				0.005	0.005 (B2)			0.05 (188)	
N-Nitroso-N-ethylurea				0.0013				0.015 (188)	
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone								0.007 (188)	
N-Nitrosomethylethylamine				0.0016	0.002 (B2)			0.015 (188)	
N-Nitroso-N-methylurea				0.00029				0.003 (188)	
N-Nitroso-N-methylurethane				0.00032				0.003 (188)	
N-Nitrosomethylvinylamine								0.002 (68,188)	
N-Nitrosomorpholine				0.0052				0.05 (188)	
N-Nitrosonornicotine				0.025				0.25 (188)	
N-Nitrosopiperidine				0.0037				0.035 (188)	
N-Nitrosopyrrolidine				0.017	0.02 (B2)			0.15 (188)	
N-Nitrososarcosine								2.5 (68,188)	
m-Nitrotoluene									
trans-Nonachlor									
Nonane									
Nonylphenol									
Norflurazon	280								
NuStar	5								
Ochratoxin A								0.015 (68,188)	
Octabromodiphenyl ether	21				(D)				
Octachlorodibenzo-p-dioxin				0.0027				(188)	
Octachlorodibenzofuran				0.0027				(188)	
Octane									
Odor									
Oil and Grease									
Oryzalin	35				(C)				
Osmium tetroxide									
Oxadiazon	35							(188)	(189)
Oxamyl	180	35 (167)				(E,167)			
Oxychlordane									
Oxyfluorfen	20								
Oxygen, dissolved									
Ozone									
Paclobutrazol	91								
PAHs									
Paraquat	3.2	30	59.5		(C)	(C,166)			
Parathion			30		(C)				
Pendimethalin	280								
Pentabromodiphenyl ether	14 (177)				(D)				
2,2',4,4',5-Pentabromodiphenyl ether	0.7 (68)				(I,68)				
Pentachlorobenzene	6				(D)				
2,3,3',4,4'-Pentachlorobiphenyl				0.0027				(188)	
2,3,4,4',5-Pentachlorobiphenyl				0.00054				(188)	
2',3,4,4',5-Pentachlorobiphenyl				0.0027				(188)	
2,3',4,4',5-Pentachlorobiphenyl				0.0027				(188)	
3,3',4,4',5-Pentachlorobiphenyl				0.0000027				(188)	

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
4-Nitropyrene									
Nitrosamines									
N-Nitrosodi-n-butylamine									
N-Nitrosodiethanolamine									
N-Nitrosodiethylamine									
N-Nitrosodimethylamine	0.00069 (113,143)	8.1 (113,143)				8.1 (113,143)			
N-Nitrosodiphenylamine	5 (113,143)	16 (113,143)				16 (113,143)			
p-Nitrosodiphenylamine									
N-Nitrosodipropylamine	0.005	1.4				1.4			
N-Nitroso-N-ethylurea									
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone									
N-Nitrosomethylethylamine									
N-Nitroso-N-methylurea									
N-Nitroso-N-methylurethane									
N-Nitrosomethylvinylamine									
N-Nitrosomorpholine									
N-Nitrosonornicotine									
N-Nitrosopiperidine									
N-Nitrosopyrrolidine									
N-Nitrososarcosine									
m-Nitrotoluene									
trans-Nonachlor									
Nonane									
Nonylphenol									
Norflurazon									
NuStar									
Ochratoxin A									
Octabromodiphenyl ether									
Octachlorodibenzo-p-dioxin	0.00013 (113,144)	0.00014 (113,144)							
Octachlorodibenzofuran	0.00013 (113,144)	0.00014 (113,144)				0.00014 (113,144)			
Octane									
Odor									
Oil and Grease									
Oryzalin									
Osmium tetroxide									
Oxadiazon									
Oxamyl									
Oxychlordane									
Oxyfluorfen									
Oxygen, dissolved									
Ozone									
Paclobutrazol									
PAHs									
Paraquat									
Parathion									
Pendimethalin									
Pentabromodiphenyl ether									
2,2',4,4',5-Pentabromodiphenyl ether									
Pentachlorobenzene									
2,3,3',4,4'-Pentachlorobiphenyl									
2,3,4,4',5-Pentachlorobiphenyl									
2',3,4,4',5-Pentachlorobiphenyl									
2,3',4,4',5-Pentachlorobiphenyl									
3,3',4,4',5-Pentachlorobiphenyl									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
4-Nitropyrene												
Nitrosamines	0.0008	1.24								5850		
N-Nitrosodi-n-butylamine			0.0063 (188)	0.22 (188)						5850 (56)		
N-Nitrosodiethanolamine			0.0125 (68)	1060 (68)						5850 (56)		
N-Nitrosodiethylamine			0.0008 (51,188)	1.24 (51,188)						5850 (56)		
N-Nitrosodimethylamine			0.00069 (188)	3 (188)						5850 (56)		
N-Nitrosodiphenylamine			3.3 (188)	6 (188)						5850 (56)		
p-Nitrosodiphenylamine										5850 (56)		
N-Nitrosodipropylamine			0.005 (188)	0.15 (188)						5850 (56)		
N-Nitroso-N-ethylurea												
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone												
N-Nitrosomethylethylamine			0.0016 (68)	0.219 (68)						5850 (56)		
N-Nitroso-N-methylurea												
N-Nitroso-N-methylurethane												
N-Nitrosomethylvinylamine										5850 (56)		
N-Nitrosomorpholine												
N-Nitrosonornicotine												
N-Nitrosopiperidine												
N-Nitrosopyrrolidine			0.016 (188)	34 (188)						5850 (56)		
N-Nitrososarcosine												
m-Nitrotoluene												
trans-Nonachlor												
Nonane												
Nonylphenol						6.6		28				
Norflurazon												
NuStar												
Ochratoxin A												
Octabromodiphenyl ether										360 (58)	122 (58)	
Octachlorodibenzo-p-dioxin												
Octachlorodibenzofuran												
Octane												
Odor												
Oil and Grease	(51,128)				(51,128)				(51,129)			
Oryzalin												
Osmium tetroxide												
Oxadiazon												
Oxamyl												
Oxychlordane												
Oxyfluorfen												
Oxygen, dissolved						see page 26	see page 26					
Ozone												
Paclobutrazol												
PAHs			0.0044 (41)	0.049 (41)								
Paraquat												
Parathion						0.013		0.065				
Pendimethalin												
Pentabromodiphenyl ether										360 (58)	122 (58)	
2,2',4,4',5-Pentabromodiphenyl ether										360 (58)	122 (58)	
Pentachlorobenzene	1.4	1.5								250 (22)		50 (22,23)
2,3,3',4,4'-Pentachlorobiphenyl												
2,3,4,4',5-Pentachlorobiphenyl												
2',3,4,4',5-Pentachlorobiphenyl												
2,3',4,4',5-Pentachlorobiphenyl												
3,3',4,4',5-Pentachlorobiphenyl												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
4-Nitropyrene													
Nitrosamines											3300000		
N-Nitrosodi-n-butylamine											3300000 (56)		
N-Nitrosodiethanolamine											3300000 (56)		
N-Nitrosodiethylamine											3300000 (56)		
N-Nitrosodimethylamine	7.3 (188)										3300000 (56)		
N-Nitrosodiphenylamine	2.5 (188)										3300000 (56)		
p-Nitrosodiphenylamine											3300000 (56)		
N-Nitrosodipropylamine	0.38 (188)										3300000 (56)		
N-Nitroso-N-ethylurea													
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone													
N-Nitrosomethylethylamine											3300000 (56)		
N-Nitroso-N-methylurea													
N-Nitroso-N-methylurethane													
N-Nitrosomethylvinylamine											3300000 (56)		
N-Nitrosomorpholine													
N-Nitrosonornicotine													
N-Nitrosopiperidine													
N-Nitrosopyrrolidine											3300000 (56)		
N-Nitrososarcosine													
m-Nitrotoluene													
trans-Nonachlor	0.000023 (81,188)												
Nonane													
Nonylphenol							1.7		7				
Norflurazon													
NuStar													
Ochratoxin A													
Octabromodiphenyl ether													
Octachlorodibenzo-p-dioxin	0.0000039 (76,188)												
Octachlorodibenzofuran	0.0000039 (76,188)												
Octane													
Odor													
Oil and Grease			25000 (117)	40000 (117)		75000 (117)				(51,129)			
Oryzalin													
Osmium tetroxide													
Oxadiazon													
Oxamyl													
Oxychlordane	0.000023 (81,188)												
Oxyfluorfen													
Oxygen, dissolved													
Ozone													
Paclobutrazol													
PAHs	0.0088 (33,188)										300		
Paraquat													
Parathion													
Pendimethalin													
Pentabromodiphenyl ether													
2,2',4,4',5-Pentabromodiphenyl ether													
Pentachlorobenzene											160 (22)	129 (22)	
2,3,3',4,4'-Pentachlorobiphenyl													
2,3,4,4',5-Pentachlorobiphenyl													
2',3,4,4',5-Pentachlorobiphenyl													
2,3',4,4',5-Pentachlorobiphenyl													
3,3',4,4',5-Pentachlorobiphenyl													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
4-Nitropyrene	57835-92-4			
Nitrosamines				
N-Nitrosodi-n-butylamine	924-16-3	Dibutylnitrosamine	DBNA	
N-Nitrosodiethanolamine	1116-54-7	Diethanolnitrosamine		
N-Nitrosodiethylamine	55-18-5	Diethylnitrosamine	DEN	NDEA
N-Nitrosodimethylamine	62-75-9	Dimethylnitrosamine	DMNA	NDMA
N-Nitrosodiphenylamine	86-30-6	Diphenylnitrosamine	Redax	NDPA
p-Nitrosodiphenylamine	156-10-5	Diphenylnitrosamine		
N-Nitrosodipropylamine	621-64-7	Dipropylnitrosamine	N-Nitrosodi-n-propylamine	DPNA or NDPA
N-Nitroso-N-ethylurea	759-73-9	Ethylnitrosourea	ENU	
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone	64091-91-4	NNK		
N-Nitrosomethylethylamine	10595-95-6	Methyl ethyl nitrosamine	N-Nitroso-N-methylethylamine	
N-Nitroso-N-methylurea	684-93-5	N-Nitroso-N-methylurea	Methylnitrosourea	MNU
N-Nitroso-N-methylurethane	615-53-2	Methylnitrosourethane		
N-Nitrosomethylvinylamine	4549-40-0	Methyl vinyl nitrosamine		
N-Nitrosomorpholine	59-89-2			
N-Nitrosonornicotine	16543-55-8			
N-Nitrosopiperidine	100-75-4			
N-Nitrosopyrrolidine	930-55-2			
N-Nitrososarcosine	13256-22-9			
m-Nitrotoluene	1321-12-6	m-Methylnitrobenzene		
trans-Nonachlor	39765-80-5	Nonachlor		
Nonane	111-84-2			
Nonylphenol	25154-52-3			
Norflurazon	27314-13-2	Azinone		
NuStar	85509-19-9	DPX-H6573		
Ochratoxin A	303-47-9			
Octabromodiphenyl ether	32536-52-0			
Octachlorodibenzo-p-dioxin	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	1,2,3,4,6,7,8,9-OCDD	[A Dioxin or dioxin-like compound]
Octachlorodibenzofuran	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	1,2,3,4,6,7,8,9-OCDF	[A Dioxin or dioxin-like compound]
Octane	111-65-9			
Odor				
Oil and Grease		Oil	Grease	
Oryzalin	19044-88-3			
Osmium tetroxide	20816-12-0	OsO4		
Oxadiazon	19666-30-9			
Oxamyl	23135-22-0	Vydate		
Oxychlordane	27304-13-8			
Oxyfluorfen	42874-03-3	Goal		
Oxygen, dissolved	7782-44-7	Dissolved Oxygen	O2	DO
Ozone	10028-15-6	O3		
Paclobutrazol	76738-62-0			
PAHs		Polynuclear aromatic hydrocarbons	PNAs	
Paraquat	1910-42-5	Ortho paraquat		
Parathion	56-38-2	Ethyl parathion	Thiophos	
Pendimethalin	40487-42-1	Prowl		
Pentabromodiphenyl ether	32534-81-9	PentaBDE		
2,2',4,4',5-Pentabromodiphenyl ether	60348-60-9	BDE-99	PBDE-99	1,2,4-Tribromo-5-(2,4-dibromophenoxy)benzene
Pentachlorobenzene	608-93-5			
2,3,3',4,4'-Pentachlorobiphenyl	332598-14-4	PCB 105	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
2,3,4,4',5-Pentachlorobiphenyl	74472-37-0	PCB 114	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
2',3,4,4',5-Pentachlorobiphenyl	65510-44-3	PCB 123	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
2,3',4,4',5-Pentachlorobiphenyl	31508-00-6	PCB 118	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
3,3',4,4',5-Pentachlorobiphenyl	57465-28-8	PCB 126	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
1,2,3,7,8-Pentachlorodibenzo-p-dioxin									
1,2,3,7,8-Pentachlorodibenzofuran									
2,3,4,7,8-Pentachlorodibenzofuran									
Pentachloroethane									
Pentachloronitrobenzene							20 / 200 (191)		
Pentachlorophenol	1		1		0 (185)	0.4 (188)			30 (125)
Pentane									22 (126)
Perchlorate	6 (68)					6	6 / 60 (191)		
Permethrin									
pH				6.5 / 8.5 units (30)				6.5 / 8.4 units (30)	
Phenacetin									
Phenanthrene									
Phenazopyridine									
Phenesterin									
Phenmedipham									
Phenobarbital									
Phenol							4200 / 42000 (191)		7900 (126)
Phenols, non-chlorinated									
Phenoxybenzamine									
m-Phenylenediamine									
o-Phenylenediamine									
Phenyl ether									180 (126)
Phenyl glycidyl ether									
Phenylhydrazine									
Phenyl mercaptan									0.28 (126)
Phenylmercuric acetate									
o-Phenylphenate, sodium									
Phorate									
Phosmet									
Phosphate phosphorus									
Phosphine									0.2 (126)
Phosphorus									
Phthalate esters									
Phthalic anhydride									
Picloram	500		500		500	500			
Pirimiphos-methyl									
Polybrominated biphenyls									
Polychlorinated biphenyls	0.5		0.5		0 (185)	0.09 (68,149)			
Polygeenan									
Ponceau MC									
Ponceau 3R									
Potassium bromate									
Potassium cyanide									
Potassium dimethyldithio-carbamate									
Potassium silver cyanide									
Procarbazine									
Prochloraz									
Prometon									
Prometryn									
Pronamide									
Propachlor							90 / 900 (191)		
Propane									1000 (126)

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
1,2,3,7,8-Pentachlorodibenzo-p-dioxin				0.00000027				(188)	
1,2,3,7,8-Pentachlorodibenzofuran				0.0000054				(188)	
2,3,4,7,8-Pentachlorodibenzofuran				0.00000054				(188)	
Pentachloroethane									
Pentachloronitrobenzene	21						3.6		
Pentachlorophenol	210	300 (10-day)	6 / 21 (7)	0.43	0.3 (B2)	0.3 (B2)		20 (188)	
Pentane									
Perchlorate	5	20 / 40 (30,68)			(N)				
Permethrin	350								
pH									
Phenacetin				16				150 (188)	
Phenanthrene					(D)	(D)			
Phenazopyridine				0.21 / 0.23 (174)				2 / 2.5 (174,188)	
Phenesterin				0.00023				0.0025 (188)	
Phenmedipham	1800								
Phenobarbital				0.076				1 (188)	
Phenol	2100	2000 (166)			(D)	(D,68)			
Phenols, non-chlorinated									
Phenoxybenzamine				0.011 / 0.013 (174)				0.1 / 0.15 (174,188)	
m-Phenylenediamine	42								
o-Phenylenediamine								13 / 22 (174,188)	
Phenyl ether									
Phenyl glycidyl ether								2.5 (188)	
Phenylhydrazine								0.5 / 0.7 (174,188)	
Phenyl mercaptan									
Phenylmercuric acetate	0.6								
o-Phenylphenate, sodium				12				100 (188)	
Phorate			0.7						
Phosmet	140								
Phosphate phosphorus									
Phosphine	2				(D)				
Phosphorus	0.14 (40)	0.1 (40)			(D)	(D)			
Phthalate esters									
Phthalic anhydride	14000								
Picloram	490	140 (168)	1050			(D)			
Pirimiphos-methyl	70								
Polybrominated biphenyls				0.0012				0.01 (188)	(189)
Polychlorinated biphenyls	0.49 / 0.14 (165)		50 (7-day)	0.007	0.1 (B2)	0.1 (B2,68)	0.16 (69)	0.045 (188)	(189)
Polygeenan								600 (188)	
Ponceau MC				7.8				100 (188)	
Ponceau 3R				2.2				20 (188)	
Potassium bromate				0.071				0.5 (188)	
Potassium cyanide	350								
Potassium dimethyldithio-carbamate									360 (68,189)
Potassium silver cyanide	1400								
Procarbazine				0.0025 / 0.0029 (174)				0.025 / 0.03 (174,188)	(174,189)
Prochloraz	6.3				0.2 (C)				
Prometon	110	100				(D)			
Prometryn	28								
Pronamide	53	560 (168)				2 (B2,167)		(188)	
Propachlor	91	350 (168)	700			(L,167)		(188)	
Propane									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.000000013 (113,144)	0.000000014 (113,144)				0.000000014 (113,144)			
1,2,3,7,8-Pentachlorodibenzofuran	0.00000026 (113,144)	0.00000028 (113,144)				0.00000028 (113,144)			
2,3,4,7,8-Pentachlorodibenzofuran	0.000000026 (113,144)	0.000000028 (113,144)				0.000000028 (113,144)			
Pentachloroethane									
Pentachloronitrobenzene									
Pentachlorophenol	0.28 (113,188)	8.2 (113,188)	see page 27	see page 27		8.2 (113,188)	7.9	13	
Pentane									
Perchlorate									
Permethrin									
pH									
Phenacetin									
Phenanthrene									
Phenazopyridine									
Phenesterin									
Phenmedipham									
Phenobarbital									
Phenol	21000	4600000				4600000			
Phenols, non-chlorinated									
Phenoxybenzamine									
m-Phenylenediamine									
o-Phenylenediamine									
Phenyl ether									
Phenyl glycidyl ether									
Phenylhydrazine									
Phenyl mercaptan									
Phenylmercuric acetate									
o-Phenylphenate, sodium									
Phorate									
Phosmet									
Phosphate phosphorus									
Phosphine									
Phosphorus									
Phthalate esters									
Phthalic anhydride									
Picloram									
Pirimiphos-methyl									
Polybrominated biphenyls									
Polychlorinated biphenyls	0.00017 (113,188)	0.00017 (113,188)	0.014 (114,116)			0.00017 (113,188)	0.03 (114,116)		
Polygeenan									
Ponceau MC									
Ponceau 3R									
Potassium bromate									
Potassium cyanide									
Potassium dimethyldithio-carbamate									
Potassium silver cyanide									
Procarbazine									
Prochloraz									
Prometon									
Prometryn									
Pronamide									
Propachlor									
Propane									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
1,2,3,7,8-Pentachlorodibenzo-p-dioxin												
1,2,3,7,8-Pentachlorodibenzofuran												
2,3,4,7,8-Pentachlorodibenzofuran												
Pentachloroethane										7240	1100	
Pentachloronitrobenzene												
Pentachlorophenol			0.27 (188)	3 (188)	30	see page 27		see page 27				
Pentane												
Perchlorate												
Permethrin								0.03 (152)				
pH					5 / 9 units (30,51)				6.5 / 9 units (30,51)			
Phenacetin												
Phenanthrene												
Phenazopyridine												
Phenesterin												
Phenmedipham												
Phenobarbital												
Phenol	21000	1700000			300					10200	2560	
Phenols, non-chlorinated												
Phenoxybenzamine												
m-Phenylenediamine												
o-Phenylenediamine												
Phenyl ether												
Phenyl glycidyl ether												
Phenylhydrazine												
Phenyl mercaptan												
Phenylmercuric acetate												
o-Phenylphenate, sodium												
Phorate												
Phosmet												
Phosphate phosphorus						(141)						
Phosphine												
Phosphorus												
Phthalate esters										940	3	
Phthalic anhydride												
Picloram												
Pirimiphos-methyl												
Polybrominated biphenyls												
Polychlorinated biphenyls			0.000064 (173,188)	0.000064 (173,188)		0.014 (114,173)				2		
Polygeenan												
Ponceau MC												
Ponceau 3R												
Potassium bromate												
Potassium cyanide												
Potassium dimethyldithio-carbamate												
Potassium silver cyanide												
Procarbazine												
Prochloraz												
Prometon												
Prometryn												
Pronamide												
Propachlor	466 (8)								8 (8)			
Propane												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
		Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Human Health (30-day Average) aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.0000000078 (76,188)												
1,2,3,7,8-Pentachlorodibenzofuran	0.000000078 (76,188)												
2,3,4,7,8-Pentachlorodibenzofuran	0.0000000078 (76,188)												
Pentachloroethane											390	281	
Pentachloronitrobenzene													
Pentachlorophenol		1 (87)			4 (87)	10 (87)	7.9		13				
Pentane													
Perchlorate													
Permethrin									0.001 (151)				
pH						6 / 9 units (30,117)				6.5 / 8.5 units (51,132)			
Phenacetin													
Phenanthrene	0.0088 (33,188)										300 (52)		
Phenazopyridine													
Phenesterin													
Phenmedipham													
Phenobarbital													
Phenol		30 (86)			120 (86)	300 (86)					5800		
Phenols, non-chlorinated		30			120	300							
Phenoxybenzamine													
m-Phenylenediamine													
o-Phenylenediamine													
Phenyl ether													
Phenyl glycidyl ether													
Phenylhydrazine													
Phenyl mercaptan													
Phenylmercuric acetate													
o-Phenylphenate, sodium													
Phorate													
Phosmet													
Phosphate phosphorus							(141)						
Phosphine													
Phosphorus										0.1 (51,79)			
Phthalate esters											2944		3.4 (38)
Phthalic anhydride													
Picloram													
Pirimiphos-methyl													
Polybrominated biphenyls													
Polychlorinated biphenyls	0.000019 (118,188)						0.03 (114,173)				10		
Polygeenan													
Ponceau MC													
Ponceau 3R													
Potassium bromate													
Potassium cyanide													
Potassium dimethyldithio-carbamate													
Potassium silver cyanide													
Procarbazine													
Prochloraz													
Prometon													
Prometryn													
Pronamide													
Propachlor													
Propane													

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	1,2,3,7,8-Pentachlorodibenzodioxin	1,2,3,7,8-PeCDD	[A Dioxin or dioxin-like compound]
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	1,2,3,7,8-PeCDF	[A Dioxin or dioxin-like compound]	
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	2,3,4,7,8-PeCDF	[A Dioxin or dioxin-like compound]	
Pentachloroethane	76-01-7			
Pentachloronitrobenzene	82-68-8	PCNB	Terraclor	Quintozine
Pentachlorophenol	87-86-5	PCP	Penta	
Pentane	109-66-0			
Perchlorate	14797-73-0	ClO4-		
Permethrin	52645-53-1			
pH		negative log of H+ concentration		
Phenacetin	62-44-2			
Phenanthrene	85-01-8			[A Polynuclear aromatic hydrocarbon (PAH)]
Phenazopyridine	94-78-0	2,6-Diamino-3-phenylazopyridine	Diridone	
Phenesterin	3546-10-9	Chloroethylaminobenzeneacetate		
Phenmedipham	13684-63-4	Betanal		
Phenobarbital	50-06-6			
Phenol	108-95-2			
Phenols, non-chlorinated				
Phenoxybenzamine	59-96-1	Bensylyte	Dibenzyline	
m-Phenylenediamine	108-45-2	1,3-Diaminobenzene	Direct Brown BR	Direct Brown GG
o-Phenylenediamine	95-54-5	1,2-Benzenediamine	1,2-Diaminobenzene	o-Diaminobenzene
Phenyl ether	101-84-8	Diphenyl ether		
Phenyl glycidyl ether	122-60-1			
Phenylhydrazine	100-63-0			
Phenyl mercaptan	108-98-5	Thiophenol		
Phenylmercuric acetate	62-38-4			
o-Phenylphenate, sodium	132-27-4	Sodium o-phenylphenate	Stop Mold	Steri-Seal
Phorate	298-02-2	Thimet		
Phosmet	732-11-6			
Phosphate phosphorus	14265-44-2			
Phosphine	7803-51-2	Hydrogen phosphide		
Phosphorus	7723-14-0	P		
Phthalate esters		Phthalates	Phthalate acid esters (PAEs)	
Phthalic anhydride	85-44-9			
Picloram	1918-02-1	Tordon		
Pirimiphos-methyl	29232-93-7			
Polybrominated biphenyls		PBBs		
Polychlorinated biphenyls	1336-36-3	PCBs		
Polygeenan	53973-98-1	Poligeenan		
Ponceau MC	3761-53-3	D&C Red No. 5	Ponceau MX	
Ponceau 3R	3564-09-8	FD&C Red No. 1		
Potassium bromate	7758-01-2			
Potassium cyanide	151-50-8	Cyanide, potassium		
Potassium dimethyldithio-carbamate		Busan 85		
Potassium silver cyanide	506-61-6	Silver potassium cyanide		
Procarbazine	671-16-9	1-Methyl-2-(p-(isopropylcarbamoyl)benzyl)hydrazine	MIH	
Prochloraz	67747-09-5	BTS 40542		
Prometon	1610-18-0	Gesafram 50	Methoxypropazine	Pramitol
Prometryn	7287-19-6			
Pronamide	23950-58-5	Kerb	Propyzamide	
Propachlor	1918-16-7	Ramrod		
Propane	74-98-6			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
1,3-Propane sultone									
Propanil									
Propargite									
Propargyl alcohol									
Propazine									
Propham									
Propiconazole									
beta-Propiolactone									
Propionic acid									28000 (126)
n-Propyl acetate									310 (126)
n-Propyl alcohol									23000 (126)
n-Propylbenzene							260 / 2600 (191)		
Propylene									28 (126)
Propyleneimine									
Propylene oxide									31000 (126)
n-Propyl nitrate									15000 (126)
Propylthiouracil									
Pursuit									
Pydrin									
Pyrene									
Pyridine									950 (126)
Quinalphos									
Quinoline									
Quinone									9300 (126)
Radioactivity, Gross Alpha	15 pCi/L (110)		15 pCi/L (110)		0 (110,185)	(188,190)			
Radioactivity, Gross Beta	4 mrem/yr (171)		4 mrem/yr		0 (185)	(188,190)			
Radium-226 + Radium-228	5 pCi/L		5 pCi/L		0 (185)	0.05 / 0.019 pCi/L (100,188)			
Radon			300 pCi/L (68)		0 (68,185)				
RDX (Cyclonite)							0.3 / 30 (188,191)		
Reserpine									
Resmethrin									
Resorcinol									
Rotenone									
Safrole									
Savey									
Selenium	50		50		50			20	
Sethoxydim									
Settleable solids									
Silver		100		100					
Silver cyanide									
Simazine	4		4		4	4			
Sodium								69000	30000 / 60000 (10,30)
Sodium azide									
Sodium cyanide									
Sodium diethyldithiocarbamate									
Sodium dimethyldithiocarbamate									
Sodium fluoroacetate									
Sterigmatocystin									
Streptozotocin									
Strontium									
Strontium-90	8 pCi/L (171)		(3)			0.35 pCi/L (188)			
Strychnine									
Styrene	100		100	10 (68)	100				11 (126)
Styrene oxide									
Sulfallate									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
1,3-Propane sultone				0.015				0.15 (188)	
Propanil	35		140						
Propargite	140							(188)	(189)
Propargyl alcohol	14								
Propazine	14	10 (167)	325			(N)			
Propham	140	100				(D)			
Propiconazole	91								
beta-Propiolactone				0.0025				0.025 (188)	
Propionic acid									
n-Propyl acetate									
n-Propyl alcohol									
n-Propylbenzene									
Propylene									
Propyleneimine								0.014 (188)	
Propylene oxide				0.15	0.1 (B2)			1.5 (68,188)	
n-Propyl nitrate									
Propylthiouracil				0.035				0.35 (188)	(189)
Pursuit	1750								
Pydrin	175								
Pyrene	210				(D)	(D)			
Pyridine	7							(188)	
Quinalphos	4								
Quinoline					0.01 (B2,147)			(188)	
Quinone									
Radioactivity, Gross Alpha						0.15 pCi/L (A,110)			
Radioactivity, Gross Beta						0.04 mrem/yr (A)			
Radium-226 + Radium-228						(A)			
Radon						1.5 pCi/L (A)			
RDX (Cyclonite)	2.1	2			0.3 (C)	0.3 (C)			
Reserpine				0.0032				0.03 (188)	
Resmethrin	210								(189)
Resorcinol			500 (7-day)						
Rotenone	28		14						
Safrole				0.16				1.5 (188)	
Savey	175								
Selenium	35	50			(D)	(D)			
Sethoxydim	630								
Settleable solids									
Silver	35	100			(D)	(D)			
Silver cyanide	700 (147)								
Simazine	3.5	140 (168)	1505			(N,167)			
Sodium		20000 (57)							
Sodium azide	28								
Sodium cyanide	280								
Sodium diethyldithiocarbamate	210								
Sodium dimethyldithiocarbamate									12 (189)
Sodium fluoroacetate	0.14								(189)
Sterigmatocystin				0.16				0.01 (188)	
Streptozotocin				0.00032				0.003 (188)	(189)
Strontium	4200	4000 (166)	8400 (7-day)			(D,68)			
Strontium-90						(A)			
Strychnine	2								
Styrene	140	100	931			(C)			
Styrene oxide				0.22				2 (188)	
Sulfallate				0.18			0.31	2 (188)	

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
1,3-Propane sultone									
Propanil									
Propargite									
Propargyl alcohol									
Propazine									
Propham									
Propiconazole									
beta-Propiolactone									
Propionic acid									
n-Propyl acetate									
n-Propyl alcohol									
n-Propylbenzene									
Propylene									
Propyleneimine									
Propylene oxide									
n-Propyl nitrate									
Propylthiouracil									
Pursuit									
Pydrin									
Pyrene	960	11000				11000			
Pyridine									
Quinalphos									
Quinoline									
Quinone									
Radioactivity, Gross Alpha									
Radioactivity, Gross Beta									
Radium-226 + Radium-228									
Radon									
RDX (Cyclonite)									
Reserpine									
Resmethrin									
Resorcinol									
Rotenone									
Safrole									
Savey									
Selenium			5 (97,142)	20 (85,142)			71 (1,142)	290 (1,142)	
Sethoxydim									
Settleable solids									
Silver				see page 28 (1,142)				1.9 (1,142)	
Silver cyanide									
Simazine									
Sodium									
Sodium azide									
Sodium cyanide									
Sodium diethyldithiocarbamate									
Sodium dimethyldithiocarbamate									
Sodium fluoroacetate									
Sterigmatocystin									
Streptozotocin									
Strontium									
Strontium-90									
Strychnine									
Styrene									
Styrene oxide									
Sulfallate									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
1,3-Propane sultone												
Propanil												
Propargite												
Propargyl alcohol												
Propazine												
Propham												
Propiconazole												
beta-Propiolactone												
Propionic acid												
n-Propyl acetate												
n-Propyl alcohol												
n-Propylbenzene												
Propylene												
Propyleneimine												
Propylene oxide												
n-Propyl nitrate												
Propylthiouracil												
Pursuit												
Pydrin												
Pyrene	830	4000										
Pyridine												
Quinalphos												
Quinoline												
Quinone												
Radioactivity, Gross Alpha												
Radioactivity, Gross Beta												
Radium-226 + Radium-228												
Radon												
RDX (Cyclonite)												
Reserpine												
Resmethrin												
Resorcinol												
Rotenone									10 (54)			
Safrole												
Savey												
Selenium	170 (2)	4200 (2)				5 (135,136)	258 (2,199)	(135)				
Sethoxydim												
Settleable solids									(51,131)			
Silver									see page 29 (1,154)			
Silver cyanide												
Simazine									10 (54)			
Sodium												
Sodium azide												
Sodium cyanide												
Sodium diethyldithiocarbamate												
Sodium dimethyldithiocarbamate												
Sodium fluoroacetate												
Sterigmatocystin												
Streptozotocin												
Strontium												
Strontium-90												
Strychnine												
Styrene												
Styrene oxide												
Sulfallate												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
1,3-Propane sultone													
Propanil													
Propargite													
Propargyl alcohol													
Propazine													
Propham													
Propiconazole													
beta-Propiolactone													
Propionic acid													
n-Propyl acetate													
n-Propyl alcohol													
n-Propylbenzene													
Propylene													
Propyleneimine													
Propylene oxide													
n-Propyl nitrate													
Propylthiouracil													
Pursuit													
Pydrin													
Pyrene	0.0088 (33,188)										300 (52)		
Pyridine													
Quinalphos													
Quinoline													
Quinone													
Radioactivity, Gross Alpha													
Radioactivity, Gross Beta													
Radium-226 + Radium-228													
Radon													
RDX (Cyclonite)													
Reserpine													
Resmethrin													
Resorcinol		30 (86)			120 (86)	300 (86)							
Rotenone													
Safrole													
Savey													
Selenium		15			60	150	71 (1,136)	127 (68,200)	290 (1)				
Sethoxydim													
Settleable solids			1000 (117)	1500 (117)		3000 (117)							
Silver		0.7			2.8	7				1.9 (1,154)			
Silver cyanide													
Simazine													
Sodium													
Sodium azide													
Sodium cyanide													
Sodium diethyldithiocarbamate													
Sodium dimethyldithiocarbamate													
Sodium fluoroacetate													
Sterigmatocystin													
Streptozotocin													
Strontium													
Strontium-90													
Strychnine													
Styrene													
Styrene oxide													
Sulfallate													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
1,3-Propane sultone	1120-71-4			
Propanil	709-98-8			
Propargite	2312-35-8	Omite		
Propargyl alcohol	107-19-7	2-Propynol		
Propazine	139-40-2	Milogard		
Propham	122-42-9	Profam	Prophos	
Propiconazole	60207-90-1	Banner		
beta-Propiolactone	57-57-8			
Propionic acid	93-65-2	Propanoic acid		
n-Propyl acetate	109-60-4			
n-Propyl alcohol	71-23-8	1-Propanol		
n-Propylbenzene	103-65-1	1-Phenylpropane		
Propylene	115-07-1	Propene		
Propyleneimine	75-55-8	2-Methylaziridine		
Propylene oxide	75-56-9			
n-Propyl nitrate	627-13-4	NPN		
Propylthiouracil	51-52-5			
Pursuit	81335-77-5			
Pydrin	51630-58-1	Fenvalerate		
Pyrene	129-00-0			[A Polynuclear aromatic hydrocarbon (PAH)]
Pyridine	110-86-1			
Quinalphos	13593-03-8			
Quinoline	91-22-5	1-Azanaphthalene	Benzopyridine	1-Benzazine
Quinone	106-51-4	1,4-Benzoquinone		
Radioactivity, Gross Alpha		Gross Alpha radioactivity		
Radioactivity, Gross Beta		Gross Beta radioactivity		
Radium-226 + Radium-228	7440-14-4	226Ra + 228Ra		
Radon	14859-67-7	Rn		
RDX (Cyclonite)	121-82-4	Cyclonite	Hexogen	Hexahydro-1,3,5-trinitro-1,3,5-triazine
Reserpine	50-55-5			
Resmethrin	10453-86-8	SBP-1382		
Resorcinol	108-46-3			
Rotenone	83-79-4			
Safrole	94-59-7	4-Allyl-1,2-methylenedioxybenzene		
Savey	78587-05-0	DPX-Y5893		
Selenium	7782-49-2	Se		
Sethoxydim	74051-80-2	Poast		
Settleable solids				
Silver	7440-22-4	Ag		
Silver cyanide	506-64-9	Cyanide, silver		
Simazine	122-34-9	Princep		
Sodium	7440-23-5	Na		
Sodium azide	26628-22-8	Azide, sodium		
Sodium cyanide	143-33-9	Cyanide, sodium		
Sodium diethyldithiocarbamate	148-18-5	Diethyldithiocarbamate, sodium	Dithiocarb	Thiocarb
Sodium dimethyldithiocarbamate	128-04-1	Carbam-S	Dibam	Diram
Sodium fluoroacetate	62-74-8			
Sterigmatocystin	10048-13-2			
Streptozotocin	18883-66-4	Streptozocin		
Strontium	7440-24-6	Sr		
Strontium-90	10098-97-2	90Sr		
Strychnine	57-24-9			
Styrene	100-42-5	Vinylbenzene		
Styrene oxide	96-09-3	1,2-Epoxyethylbenzene		
Sulfallate	95-06-7	2-Chloroallyl-diethyldithiocarbamate	CDEC	Vegadex

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
Sulfate		250000 (73)	500000 (68)	250000	500000 (68)				250000 (10)
Sulfur dioxide									110 (126)
Systhane									
2,4,5-T									
Tebuthiuron									
Terbacil									
Terbufos									
Terbutryn									
2,2',4,4'-Tetrabromodiphenyl ether									
1,2,4,5-Tetrachlorobenzene									
3,3',4,4'-Tetrachlorobiphenyl									
3,4,4',5-Tetrachlorobiphenyl									
2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.00003		0.00003		0 (185)	0.000001 (68,188)			
2,3,7,8-Tetrachlorodibenzofuran									
1,1,1,2-Tetrachloroethane									
1,1,2,2-Tetrachloroethane	1					0.1 (188)			500 (126)
Tetrachloroethylene (PCE)	5		5		0 (185)	0.06 (188)			170 (126)
2,3,4,6-Tetrachlorophenol									
2,3,5,6-Tetrachlorophenol									
2,3,5,6-Tetrachloroterephthalate							3500 / 35000 (191)		
Tetrachlorovinphos									
Tetraethyldithiopyrophosphate									
Tetraethyl lead									
Tetranitromethane									
Thallium	2		2		0.5	0.1 (147)			
Thioacetamide									
Thiobencarb	70	1				70 (158)			
4,4'-Thiodianiline									
Thiophanate-methyl									
Thiourea									
Thiram									
Toluene	150		1000	40 (68)	1000	150			42 (26,125)
Toluene diisocyanate									
o-Toluidine									11000 (126)
Total dissolved solids (TDS)		500000 (75)		500000				450000	
Toxaphene	3		3		0 (185)	0.03 (188)			140 (125)
2,4,5-TP (Silvex)	50		50		50	25			
Tralomethrin									
Triallate									
Triasulfuron									
1,2,4-Tribromobenzene									
Tributyltin									
Trichlorfon									
Trichloroacetic acid	60 (106)		60 (106)		20				
Trichloroacetonitrile									
1,2,4-Trichlorobenzene	5		70		70	5			3000 / 64 (125,126)
1,3,5-Trichlorobenzene									
Trichlorobenzenes									
1,1,1-Trichloroethane	200		200		200	1000			970 (126)
1,1,2-Trichloroethane	5		5		3	0.3 (188)			
Trichloroethylene (TCE)	5		5		0 (185)	0.8 (188)			310 (126)
Trichlorofluoromethane	150					700			
2,4,5-Trichlorophenol									
2,4,6-Trichlorophenol									
1,1,2-Trichloropropane									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
Sulfate		500000 (10)							
Sulfur dioxide									
Systhane	180								
2,4,5-T	70	70	700			(D)			
Tebuthiuron	490	500				(D)			
Terbacil	91	90				(E)			(189)
Terbufos		0.4 (167)				(D)			
Terbutryn	7								
2,2',4,4'-Tetrabromodiphenyl ether	0.84 (68)				(I,68)				
1,2,4,5-Tetrachlorobenzene	2								
3,3',4,4'-Tetrachlorobiphenyl				0.0027				(188)	
3,4,4',5-Tetrachlorobiphenyl				0.0027				(188)	
2,3,7,8-Tetrachlorodibenzo-p-dioxin		0.0001 (10-day)	0.0007	0.00000027		0.0000002 (B2)		0.0000025 (188)	(189)
2,3,7,8-Tetrachlorodibenzofuran				0.0000027				(188)	
1,1,1,2-Tetrachloroethane	21 (147)	70			1 (C,147)	1 (C)			
1,1,2,2-Tetrachloroethane		0.3		0.13	0.2 (C)	0.2 (C)		1.5 (188)	
Tetrachloroethylene (PCE)	70	10		0.065			3.6	7 (188)	
2,3,4,6-Tetrachlorophenol	210								
2,3,5,6-Tetrachlorophenol									
2,3,5,6-Tetrachloroterephthalate									
Tetrachlorovinphos	210								
Tetraethyldithiopyrophosphate	3.5								
Tetraethyl lead	0.0007								
Tetranitromethane								0.0295 (188)	
Thallium	0.6	0.5			(D)				
Thioacetamide				0.0057				0.05 (188)	
Thiobencarb	70								
4,4'-Thiodianiline				0.0023				0.025 (188)	
Thiophanate-methyl	560								300 (189)
Thiourea				0.49				5 (188)	
Thiram	35		35						
Toluene	560	560 (60,166)	340		(I)	(I,166)			3500 (189)
Toluene diisocyanate				0.9				10 (188)	
o-Toluidine				0.19 / 0.27 (174)				2 / 2.5 (174,188)	
Total dissolved solids (TDS)									
Toxaphene		4 (10-day)	8.75	0.029	0.03 (B2)	0.03 (B2)		0.3 (188)	
2,4,5-TP (Silvex)	56	50	5.25		(D)	(D)			
Tralomethrin	53								
Triallate	91								
Triasulfuron	70								
1,2,4-Tribromobenzene	35 (147)								
Tributyltin	2 (122)				(D,122)				
Trichlorfon			26 / 88 (7)						
Trichloroacetic acid		20	50 / 120 (7)		(C)	(C)			
Trichloroacetonitrile		50 (10-day,68)							
1,2,4-Trichlorobenzene	70	70 (166)		9.7	(D)	(D)			
1,3,5-Trichlorobenzene		40				(D)			
Trichlorobenzenes									
1,1,1-Trichloroethane	14000 (68)	200	3800		(I,68)	(D)	17 (21)		
1,1,2-Trichloroethane	2.8	3		0.49	0.6 (C)	0.6 (C)		5 (188)	
Trichloroethylene (TCE)		50 (60)		2.7		3 (B2)	1.5 (21)	25 (188)	
Trichlorofluoromethane	2100	2000	8000 (7-day)			(D)			
2,4,5-Trichlorophenol	700								
2,4,6-Trichlorophenol		30 (10-day,68)	2500 (7-day)	0.5	3 (B2)	3 (B2,68)		5 (188)	
1,1,2-Trichloropropane	35 (147)								

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
Sulfate									
Sulfur dioxide									
Systhane									
2,4,5-T									
Tebuthiuron									
Terbacil									
Terbufos									
Terbutryn									
2,2',4,4'-Tetrabromodiphenyl ether									
1,2,4,5-Tetrachlorobenzene									
3,3',4,4'-Tetrachlorobiphenyl									
3,4,4',5-Tetrachlorobiphenyl									
2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.000000013 (113,144)	0.000000014 (113,144)				0.000000014 (113,144)			
2,3,7,8-Tetrachlorodibenzofuran	0.00000013 (113,144)	0.00000014 (113,144)				0.00000014 (113,144)			
1,1,1,2-Tetrachloroethane									
1,1,2,2-Tetrachloroethane	0.17 (113,143)	11 (113,143)				11 (113,143)			
Tetrachloroethylene (PCE)	0.8 (113,143)	8.85 (113,143)				8.85 (113,143)			
2,3,4,6-Tetrachlorophenol									
2,3,5,6-Tetrachlorophenol									
2,3,5,6-Tetrachloroterephthalate									
Tetrachlorovinphos									
Tetraethyldithiopyrophosphate									
Tetraethyl lead									
Tetranitromethane									
Thallium	1.7 (2,143)	6.3 (2,143)				6.3 (2,143)			
Thioacetamide									
Thiobencarb									
4,4'-Thiodianiline									
Thiophanate-methyl									
Thiourea									
Thiram									
Toluene	6800	200000				200000			
Toluene diisocyanate									
o-Toluidine									
Total dissolved solids (TDS)									
Toxaphene	0.00073 (113,188)	0.00075 (113,188)	0.0002	0.73		0.00075 (113,188)	0.0002	0.21	
2,4,5-TP (Silvex)									
Tralomethrin									
Triallate									
Triasulfuron									
1,2,4-Tribromobenzene									
Tributyltin									
Trichlorfon									
Trichloroacetic acid									
Trichloroacetonitrile									
1,2,4-Trichlorobenzene									
1,3,5-Trichlorobenzene									
Trichlorobenzenes									
1,1,1-Trichloroethane									
1,1,2-Trichloroethane	0.6 (113,143)	42 (113,143)				42 (113,143)			
Trichloroethylene (TCE)	2.7 (113,143)	81 (113,143)				81 (113,143)			
Trichlorofluoromethane									
2,4,5-Trichlorophenol									
2,4,6-Trichlorophenol	2.1 (113,188)	6.5 (113,188)				6.5 (113,188)			
1,1,2-Trichloropropane									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Sulfate					250000 (51,133)							
Sulfur dioxide												
Systhane												
2,4,5-T												
Tebuthiuron												
Terbacil												
Terbufos												
Terbutryn												
2,2',4,4'-Tetrabromodiphenyl ether										360 (58)	122 (58)	
1,2,4,5-Tetrachlorobenzene	0.97	1.1								250 (22)		50 (22,23)
3,3',4,4'-Tetrachlorobiphenyl												
3,4,4',5-Tetrachlorobiphenyl												
2,3,7,8-Tetrachlorodibenzo-p-dioxin			0.000000005 (188)	0.0000000051 (188)						0.01 (186)	0.00001 (186)	
2,3,7,8-Tetrachlorodibenzofuran												
1,1,1,2-Tetrachloroethane										9320 (47)		
1,1,2,2-Tetrachloroethane			0.17 (188)	4 (188)						9320 (47)	2400	
Tetrachloroethylene (PCE)			0.69 (188)	3.3 (188)						5280	840	
2,3,4,6-Tetrachlorophenol	490 (68)	3130 (68)			1							
2,3,5,6-Tetrachlorophenol												
2,3,5,6-Tetrachloroterephthalate												
Tetrachlorovinphos												
Tetraethyldithiopyrophosphate												
Tetraethyl lead												
Tetranitromethane												
Thallium	0.24 (2)	0.47 (2)								1400	40	20 (16)
Thioacetamide												
Thiobencarb									3.1 (151)			
4,4'-Thiodianiline												
Thiophanate-methyl												
Thiourea												
Thiram												
Toluene	1300	15000								17500		
Toluene diisocyanate												
o-Toluidine												
Total dissolved solids (TDS)					250000 (51,133)							
Toxaphene			0.00028 (188)	0.00028 (188)		0.0002		0.73				
2,4,5-TP (Silvex)	10 (51)											
Tralomethrin												
Triallate												
Triasulfuron												
1,2,4-Tribromobenzene												
Tributyltin						0.072		0.46				
Trichlorfon												
Trichloroacetic acid												
Trichloroacetonitrile												
1,2,4-Trichlorobenzene	35	70								250 (22)		50 (22,23)
1,3,5-Trichlorobenzene										250 (22)		50 (22,23)
Trichlorobenzenes										250 (22)		50 (22,23)
1,1,1-Trichloroethane										18000		
1,1,2-Trichloroethane			0.59 (188)	16 (188)						18000	9400	
Trichloroethylene (TCE)			2.5 (188)	30 (188)						45000		21900 (31)
Trichlorofluoromethane			0.19							11000 (20)		
2,4,5-Trichlorophenol	1800	3600			1							
2,4,6-Trichlorophenol			1.4 (188)	2.4 (188)	2						970	
1,1,2-Trichloropropane												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
		Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Human Health (30-day Average) aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Sulfate													
Sulfur dioxide													
Systhane													
2,4,5-T													
Tebuthiuron													
Terbacil													
Terbufos													
Terbutryn													
2,2',4,4'-Tetrabromodiphenyl ether													
1,2,4,5-Tetrachlorobenzene											160 (22)	129 (22)	
3,3',4,4'-Tetrachlorobiphenyl													
3,4,4',5-Tetrachlorobiphenyl													
2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.0000000039 (76,188)												
2,3,7,8-Tetrachlorodibenzofuran	0.000000039 (76,188)												
1,1,1,2-Tetrachloroethane													
1,1,2,2-Tetrachloroethane	2.3 (188)										9020		
Tetrachloroethylene (PCE)	2 (188)										10200	450	
2,3,4,6-Tetrachlorophenol		1 (87)			4 (87)	10 (87)					440		
2,3,5,6-Tetrachlorophenol		1 (87)			4 (87)	10 (87)					440		
2,3,5,6-Tetrachloroterephthalate													
Tetrachlorovinphos													
Tetraethyldithiopyrophosphate													
Tetraethyl lead													
Tetranitromethane													
Thallium	2										2130		
Thioacetamide													
Thiobencarb													
4,4'-Thiodianiline													
Thiophanate-methyl													
Thiourea													
Thiram													
Toluene	85000										6300	5000	
Toluene diisocyanate													
o-Toluidine													
Total dissolved solids (TDS)													
Toxaphene	0.00021 (188)						0.0002		0.21				
2,4,5-TP (Silvex)													
Tralomethrin													
Triallate													
Triasulfuron													
1,2,4-Tribromobenzene													
Tributyltin	0.0014						0.0074		0.42				
Trichlorfon													
Trichloroacetic acid													
Trichloroacetonitrile													
1,2,4-Trichlorobenzene											160 (22)	129 (22)	
1,3,5-Trichlorobenzene											160 (22)	129 (22)	
Trichlorobenzenes											160 (22)	129 (22)	
1,1,1-Trichloroethane	540000										31200		
1,1,2-Trichloroethane	9.4 (188)												
Trichloroethylene (TCE)	27 (188)										2000		
Trichlorofluoromethane											12000 (20)	6400 (20)	11500 (20,82)
2,4,5-Trichlorophenol		1 (87)			4 (87)	10 (87)							
2,4,6-Trichlorophenol	0.29 (188)	1 (87)			4 (87)	10 (87)							
1,1,2-Trichloropropane													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
Sulfate	14808-79-8	SO4=		
Sulfur dioxide	7446-09-5			
Systhane	88671-89-0	Rally		
2,4,5-T	93-76-5	2,4,5-Trichlorophenoxyacetic acid		
Tebuthiuron	34014-18-1	Graslan	Perflan	Spike
Terbacil	5902-51-2	Turbacil	Sinbar	
Terbufos	13071-79-9	Contraven	Counter	
Terbutryn	886-50-0			
2,2',4,4'-Tetrabromodiphenyl ether	5436-43-1	BDE-47	PBDE-47	
1,2,4,5-Tetrachlorobenzene	95-94-3			
3,3',4,4'-Tetrachlorobiphenyl	32598-13-3	PCB 77	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
3,4,4',5-Tetrachlorobiphenyl	70362-50-4	PCB 81	[A Polychlorinated biphenyl (PCB)]	[A Dioxin or dioxin-like compound]
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	2,3,7,8-Tetrachlorodibenzodioxin	2,3,7,8-TCDD	Dioxin
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	2,3,7,8-TCDF	[A Dioxin or dioxin-like compound]	
1,1,1,2-Tetrachloroethane	630-20-6			
1,1,2,2-Tetrachloroethane	79-34-5			
Tetrachloroethylene (PCE)	127-18-4	Tetrachloroethene	Perchloroethylene	PCE
2,3,4,6-Tetrachlorophenol	58-90-2			
2,3,5,6-Tetrachlorophenol	935-95-5			
2,3,5,6-Tetrachloroterephthalate	2136-79-0	2,3,5,6-Tetrachloroterephthalic acid	Chlorthal	
Tetrachlorovinphos	961-11-5	Tetrachlorvinphos		
Tetraethyldithiopyrophosphate	3689-24-5	TEDP		
Tetraethyl lead	78-00-2	Lead, tetraethyl-	TEL	
Tetranitromethane	509-14-8			
Thallium	7440-28-0	Tl		
Thioacetamide	62-55-5			
Thiobencarb	28249-77-6	Benthiocarb	Bolero	
4,4'-Thiodianiline	139-65-1			
Thiophanate-methyl	23564-05-8	Methylthiofanate		
Thiourea	62-56-6			
Thiram	137-26-8			
Toluene	108-88-3	Methylbenzene		
Toluene diisocyanate	26471-62-5	Diisocyanatotoluene		
o-Toluidine	95-53-4	2-Aminotoluene	ortho-Toluidine	
Total dissolved solids (TDS)		TDS		
Toxaphene	8001-35-2	Camphechlor	Chlorocamphene	
2,4,5-TP (Silvex)	93-72-1	2,4,5-Trichlorophenoxypropionic acid	Silvex	2 (2,4,5-Trichlorophenoxy) propionic acid
Tralomethrin	66841-25-6	RU 25474		
Triallate	2303-17-5			
Triasulfuron	82097-50-5	Amber		
1,2,4-Tribromobenzene	615-54-3			
Tributyltin	688-73-3	TBT	Tin, tributyl-	
Trichlorfon	52-68-6	Trichlorphon	Chlorofos	Dipterex
Trichloroacetic acid	76-03-9	[A Haloacetic acid]		
Trichloroacetonitrile	545-06-02			
1,2,4-Trichlorobenzene	120-82-1	unsymmetrical-Trichlorobenzene	unsymmetrical-TCB	
1,3,5-Trichlorobenzene	108-70-3			
Trichlorobenzenes	12002-48-1	Benzenes, trichloro-		
1,1,1-Trichloroethane	71-55-6	1,1,1-TCA	Methyl chloroform	
1,1,2-Trichloroethane	79-00-5	1,1,2-TCA	Vinyl trichoride	
Trichloroethylene (TCE)	79-01-6	Trichloroethene	TCE	1,1,2-Trichloroethylene
Trichlorofluoromethane	75-69-4	Fluorotrichloromethane	Freon 11	
2,4,5-Trichlorophenol	95-95-4			
2,4,6-Trichlorophenol	88-06-2			
1,1,2-Trichloropropane	598-77-6			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment; OEHHA)	California State Notification Level (formerly Action Level) for Drinking Water (Department of Public Health)	Agricultural Water Quality Limits (78)	Taste & Odor Thresholds (see also Secondary MCLs & National Ambient Recommended Water Quality Criteria)
	California Department of Public Health (CDPH)		U.S. Environmental Protection Agency (USEPA)						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal				
1,2,3-Trichloropropane							0.005 / 0.5 (188,191)		
1,1,2-Trichloro-1,2,2-trifluoro-ethane	1200					4000			300000 (170,187)
Tridiphane									
Triethylamine									420 (126)
Trifluralin									
Trimethylamine									0.2 (126)
1,2,4-Trimethylbenzene							330 / 3300 (191)		
1,3,5-Trimethylbenzene							330 / 3300 (191)		15 (126)
Trimethyl phosphate									
1,3,5-Trinitrobenzene									
Trinitroglycerol									
Trinitrophenol									
2,4,6-Trinitrotoluene (TNT)							1 / 100 (188,191)		
Tris(1-aziridinyl)phosphine sulfide									
Tris(2,3-dibromopropyl)phosphate									
Trithion							7 / 70 (191)		
Tritium	20000 pCi/L (171)		(3)			400 pCi/L (188)			
Tryptophan-P-1									
Tryptophan-P-2									
Turbidity	1 / 5 NTU (68,84)	5 NTU	1 / 5 NTU (84)						
Uranium	20 pCi/L		30		0 (185)	0.5 (162)			
Urethane									
n-Valeraldehyde									17 (126)
Vanadium							50 / 500 (191)	100	
Vernam									
Vinclozolin									
Vinyl acetate									88 (126)
Vinyl bromide									
Vinyl chloride	0.5		2		0 (185)	0.05 (188)			3400 (126)
Vinyl toluene									420 (126)
Warfarin									
Xylene(s)	1750		10000	20 (68)	10000	1800			17 (26,125)
2,4-Xylidine									1800 (126)
2,6-Xylidine									
Zinc		5000		5000				2000	
Zinc cyanide									
Zinc phosphide									
Zineb									
Ziram									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Safe Harbor Level (OEHHA) as a Drinking Water Level (14)	
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS)	No Significant Risk Level (one-in-100,000 cancer risk)	Maximum Allowable Dose Level for Reproductive Toxicity
1,2,3-Trichloropropane	42	40						(188)	
1,1,2-Trichloro-1,2,2-trifluoro-ethane	210000								
Tridiphane	21								
Triethylamine									
Trifluralin	5.3	10 (167)	700		5 (C)	4 (C,167)			
Trimethylamine									
1,2,4-Trimethylbenzene						(D,68)			
1,3,5-Trimethylbenzene		10000 (24-hr,68)				(D,68)			
Trimethyl phosphate								12 (188)	
1,3,5-Trinitrobenzene	210								
Trinitroglycerol		5				2			
Trinitrophenol			200 (7-day)						
2,4,6-Trinitrotoluene (TNT)	0.35	2			1 (C)	1 (C)			
Tris(1-aziridinyl)phosphine sulfide				0.0029				0.03 (188)	
Tris(2,3-dibromopropyl)phosphate				0.015				0.15 (188)	
Trithion									
Tritium						(A)		(188)	
Tryptophan-P-1				0.0013				0.015 (188)	
Tryptophan-P-2				0.011				0.1 (188)	
Turbidity									
Uranium	21 (164)	4 (60)	35			(A)		(188)	
Urethane				0.035				0.35 (188)	(189)
n-Valeraldehyde									
Vanadium	63 (123)					(D)			
Vernam	7 (147)								
Vinclozolin	180							(188)	(189)
Vinyl acetate									
Vinyl bromide								0.5 (68,188)	
Vinyl chloride	21	3000 (10-day)		0.13	0.024 / 0.048 (A,156)	0.02 (H,166)	1.1	1.5 (188)	
Vinyl toluene									
Warfarin	2								(189)
Xylene(s)	1400	1400 (166)			(D)	(I,166)			
2,4-Xylidine									
2,6-Xylidine								55 (188)	
Zinc	2100	2000 (68)			(I)	(I,166)			
Zinc cyanide	350								
Zinc phosphide	2								
Zineb	350		35						
Ziram			87.5						

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Toxics Rule Criteria (USEPA) unless noted								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average) aquatic organism consumption only	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum		Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
1,2,3-Trichloropropane									
1,1,2-Trichloro-1,2,2-trifluoro-ethane									
Tridiphane									
Triethylamine									
Trifluralin									
Trimethylamine									
1,2,4-Trimethylbenzene									
1,3,5-Trimethylbenzene									
Trimethyl phosphate									
1,3,5-Trinitrobenzene									
Trinitroglycerol									
Trinitrophenol									
2,4,6-Trinitrotoluene (TNT)									
Tris(1-aziridinyl)phosphine sulfide									
Tris(2,3-dibromopropyl)phosphate									
Trithion									
Tritium									
Tryptophan-P-1									
Tryptophan-P-2									
Turbidity									
Uranium									
Urethane									
n-Valeraldehyde									
Vanadium									
Vernam									
Vinclozolin									
Vinyl acetate									
Vinyl bromide									
Vinyl chloride	2 (113,143)	525 (113,143)				525 (113,143)			
Vinyl toluene									
Warfarin									
Xylene(s)									
2,4-Xylidine									
2,6-Xylidine									
Zinc			see page 30 (1,142)	see page 30 (1,142)			81 (1,142)	90 (1,142)	
Zinc cyanide									
Zinc phosphide									
Zineb									
Ziram									

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	USEPA National Recommended Ambient Water Quality Criteria unless noted for Human Health and Welfare Protection					for Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
1,2,3-Trichloropropane												
1,1,2-Trichloro-1,2,2-trifluoro-ethane												
Tridiphane												
Triethylamine												
Trifluralin												
Trimethylamine												
1,2,4-Trimethylbenzene												
1,3,5-Trimethylbenzene												
Trimethyl phosphate												
1,3,5-Trinitrobenzene												
Trinitroglycerol												
Trinitrophenol										230 (88)		150 (38,88)
2,4,6-Trinitrotoluene (TNT)												
Tris(1-aziridinyl)phosphine sulfide												
Tris(2,3-dibromopropyl)phosphate												
Trithion												
Tritium												
Tryptophan-P-1												
Tryptophan-P-2												
Turbidity									(51,131)			
Uranium												
Urethane												
n-Valeraldehyde												
Vanadium												
Vernam												
Vinclozolin												
Vinyl acetate												
Vinyl bromide												
Vinyl chloride			0.025 (188)	2.4 (188)								
Vinyl toluene												
Warfarin												
Xylene(s)												
2,4-Xylidine												
2,6-Xylidine												
Zinc	7400 (2)	26000 (2)			5000	see page 30 (1)		see page 30 (1)				
Zinc cyanide												
Zinc phosphide												
Zineb												
Ziram												

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria for Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
1,2,3-Trichloropropane													
1,1,2-Trichloro-1,2,2-trifluoro-ethane													
Tridiphane													
Triethylamine													
Trifluralin													
Trimethylamine													
1,2,4-Trimethylbenzene													
1,3,5-Trimethylbenzene													
Trimethyl phosphate													
1,3,5-Trinitrobenzene													
Trinitroglycerol													
Trinitrophenol		30 (86)			120 (86)	300 (86)					4850 (88)		
2,4,6-Trinitrotoluene (TNT)													
Tris(1-aziridinyl)phosphine sulfide													
Tris(2,3-dibromopropyl)phosphate													
Trithion													
Tritium													
Tryptophan-P-1													
Tryptophan-P-2													
Turbidity			75 NTU (117)	100 NTU (117)		225 NTU (117)							
Uranium													
Urethane													
n-Valeraldehyde													
Vanadium													
Vernam													
Vinclozolin													
Vinyl acetate													
Vinyl bromide													
Vinyl chloride	36 (188)												
Vinyl toluene													
Warfarin													
Xylene(s)													
2,4-Xylidine													
2,6-Xylidine													
Zinc		20			80	200	81 (1)		90 (1)				
Zinc cyanide													
Zinc phosphide													
Zineb													
Ziram													

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS (in ug/l or ppb unless noted)

CONSTITUENT or PARAMETER	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
1,2,3-Trichloropropane	96-18-4	Allyl trichloride	1,2,3-TCP	
1,1,2-Trichloro-1,2,2-trifluoro-ethane	76-13-1	Trichlorotrifluoroethane	Freon 113	
Tridiphane	58138-08-2	Tandem		
Triethylamine	121-44-8			
Trifluralin	1582-09-8	Treflan		
Trimethylamine	75-50-3			
1,2,4-Trimethylbenzene	95-63-6	asymmetrical-Trimethylbenzene	Pseudocumene	
1,3,5-Trimethylbenzene	108-67-8	Mesitylene	symmetrical-Trimethylbenzene	
Trimethyl phosphate	512-56-1	Phosphoric acid, trimethyl ester		
1,3,5-Trinitrobenzene	99-35-4			
Trinitroglycerol	55-63-0	Nitroglycerin		
Trinitrophenol	88-89-1	Picric acid		
2,4,6-Trinitrotoluene (TNT)	118-96-7	TNT		
Tris(1-aziridinyl)phosphine sulfide	52-24-4	Thiotepa		
Tris(2,3-dibromopropyl)phosphate	126-72-7			
Trithion	786-19-6	Carbophenothion		
Tritium	10028-17-8	3H		
Tryptophan-P-1	62450-06-0	Trp-P-1		
Tryptophan-P-2	62450-07-1	Trp-P-2		
Turbidity				
Uranium	7440-61-1	U		
Urethane	51-79-6	Ethyl carbamate		
n-Valeraldehyde	110-62-3	Amyl aldehyde	Pentanal	
Vanadium	7440-62-2	V		
Vernam	1929-77-7	Vernolate	PPTC	
Vinclozolin	50471-44-8	Ronilan		
Vinyl acetate	108-05-4			
Vinyl bromide	593-60-2	Bromoethene	Bromoethylene	
Vinyl chloride	75-01-4	VC	Chloroethene	Chloroethylene
Vinyl toluene	25013-15-4	Methyl styrene		
Warfarin	81-81-2	Coumadin	Coumafen	
Xylene(s)	1330-20-7	o-Xylene	m-Xylene	p-Xylene
2,4-Xylidine	1300-73-8	Amino-2,4-dimethylbenzene	2,4-Dimethylaniline	
2,6-Xylidine	87-62-7	2,6-Dimethylaniline	Amino-2,6-dimethylbenzene	
Zinc	7440-66-6	Zn		
Zinc cyanide	557-21-1	Cyanide, zinc		
Zinc phosphide	1314-84-7			
Zineb	12122-67-7	Dithane Z-78		
Ziram	137-30-4			

WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - AMMONIA

USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life

Total Ammonia Nitrogen

Continuous Concentration, 30-day Average (mg N/L)‡

pH	Fish Early Life Stages Present: Temperature, degrees C										Fish Early Life Stages Absent: Temperature, degrees C										Maximum Concentration 1-hour Average (mg N/L)		pH
	0	14	16	18	20	22	24	26	28	30	0 - 7	8	9	10	11	12	13	14	15 †	16 †	Salmonids Present	Salmonids Absent	
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06	32.6	48.8	6.5
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97	31.3	46.8	6.6
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86	29.8	44.6	6.7
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72	28.0	42.0	6.8
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56	26.2	39.2	6.9
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37	24.1	36.1	7.0
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15	21.9	32.9	7.1
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90	19.7	29.5	7.2
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61	17.5	26.2	7.3
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30	15.3	23.0	7.4
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97	13.3	19.9	7.5
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61	11.4	17.0	7.6
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25	9.64	14.4	7.7
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	8.11	12.1	7.8
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54	6.77	10.1	7.9
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21	5.62	8.41	8.0
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91	4.64	6.95	8.1
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63	3.83	5.73	8.2
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39	3.15	4.71	8.3
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17	2.59	3.88	8.4
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990	2.14	3.20	8.5
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836	1.77	2.65	8.6
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707	1.47	2.20	8.7
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601	1.23	1.84	8.8
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513	1.04	1.56	8.9
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442	0.885	1.32	9.0

Notes:

† At 15 C and above, the criterion for fish early life stages absent is the same as the criterion for fish early life stages present.

‡ In addition, the highest four-day average within the 30-day period should not exceed 2.5 times the Criteria Continuous Concentration shown in the above table.

Criteria Continuous Concentration

30-day average total ammonia nitrogen (in mg N/L) ‡

when fish early life stages are present:

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \times MIN\left(2.85, 1.45 \times 10^{0.028\times(25-T)}\right)$$

when fish early life stages are absent:

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \times 1.45 \times 10^{0.028\times(25-MAX(T,7))}$$

where T = temperature in degrees C

Criteria Maximum Concentration

1-hour average total ammonia nitrogen (in mg N/L)

where salmonid fish are present:

$$CMC = \frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$$

where salmonid fish are not present:

$$CMC = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

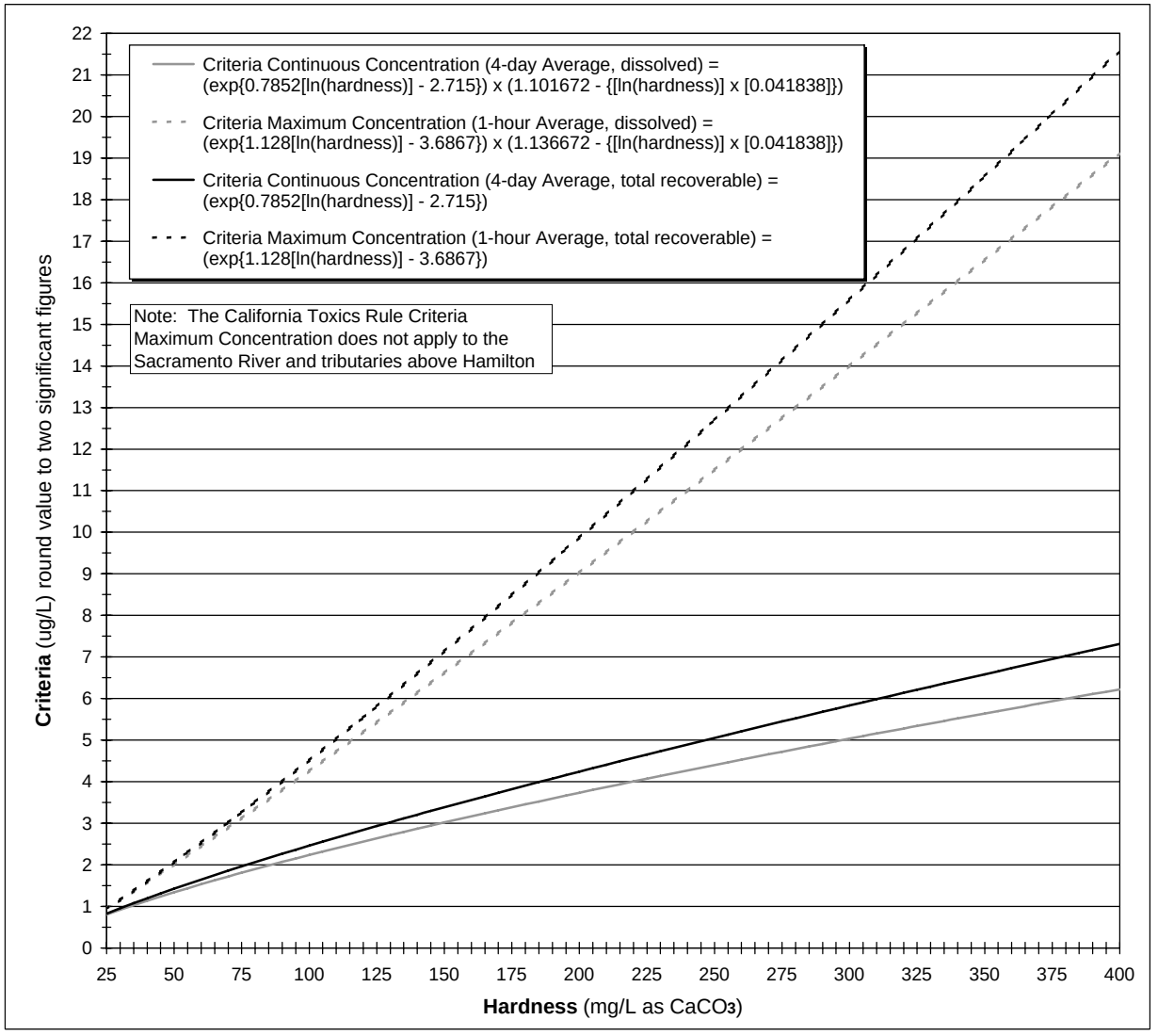
WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
SALTWATER AQUATIC LIFE - AMMONIA

USEPA National Recommended Water Quality Criteria to Protect Saltwater Aquatic Life
Total Ammonia

pH	Criteria Continuous Concentrations, 4-day Average (mg/L) Temperature, degrees C 0	5	10	15	20	25	30	35	Criteria Maximum Concentrations, 1-hour Average (mg/L) Temperature, degrees C 0	5	10	15	20	25	30	35	pH
	Salinity = 10 g/kg								**Salinity = 10 g/kg**								
7.0	41	29	20	14	9.4	6.6	4.4	3.1	270	191	131	92	62	44	29	21	7.0
7.2	26	18	12	8.7	5.9	4.1	2.8	2.0	175	121	83	58	40	27	19	13	7.2
7.4	17	12	7.8	5.3	3.7	2.6	1.8	1.2	110	77	52	35	25	14	12	8.3	7.4
7.6	10	7.2	5.0	3.4	2.4	1.7	1.2	0.84	69	48	33	23	16	11	7.7	5.6	7.6
7.8	6.6	4.7	3.1	2.2	1.5	1.1	0.75	0.53	44	31	21	15	10	7.1	5.0	3.5	7.8
8.0	4.1	2.9	2.0	1.40	0.97	0.69	0.47	0.34	27	19	13	9.4	6.4	4.6	3.1	2.3	8.0
8.2	2.7	1.8	1.3	0.87	0.62	0.44	0.31	0.23	18	12	8.5	5.8	4.2	2.9	2.1	1.5	8.2
8.4	1.7	1.2	0.81	0.56	0.41	0.29	0.21	0.16	11	7.9	5.4	3.7	2.7	1.9	1.4	1.0	8.4
8.6	1.1	0.75	0.53	0.37	0.27	0.20	0.15	0.11	7.3	5.0	3.5	2.5	1.8	1.3	0.98	0.75	8.6
8.8	0.69	0.50	0.34	0.25	0.18	0.14	0.11	0.08	4.6	3.3	2.3	1.7	1.2	0.92	0.71	0.56	8.8
9.0	0.44	0.31	0.23	0.17	0.13	0.10	0.08	0.07	2.9	2.1	1.5	1.1	0.85	0.67	0.52	0.44	9.0
	Salinity = 20 g/kg								**Salinity = 20 g/kg**								
7.0	44	30	21	14	9.7	6.6	4.7	3.1	291	200	137	96	64	44	31	21	7.0
7.2	27	19	13	9.0	6.2	4.4	3.0	2.1	183	125	87	60	42	29	20	14	7.2
7.4	18	12	8.1	5.6	4.1	2.7	1.9	1.3	116	79	54	37	27	18	12	8.7	7.4
7.6	11	7.5	5.3	3.4	2.5	1.7	1.2	0.84	73	50	35	23	17	11	7.9	5.6	7.6
7.8	6.9	4.7	3.4	2.3	1.6	1.1	0.78	0.53	46	31	23	15	11	7.5	5.2	3.5	7.8
8.0	4.4	3.0	2.1	1.5	1.0	0.72	0.50	0.34	29	20	14	9.8	6.7	4.8	3.3	2.3	8.0
8.2	2.8	1.9	1.3	0.94	0.66	0.47	0.31	0.24	19	13	8.9	6.2	4.4	3.1	2.1	1.6	8.2
8.4	1.8	1.2	0.84	0.59	0.44	0.30	0.22	0.16	12	8.1	5.6	4.0	2.9	2.0	1.5	1.1	8.4
8.6	1.1	0.78	0.56	0.41	0.28	0.20	0.15	0.12	7.5	5.2	3.7	2.7	1.9	1.4	1.0	0.77	8.6
8.8	0.72	0.50	0.37	0.26	0.19	0.14	0.11	0.08	4.8	3.3	2.5	1.7	1.3	0.94	0.73	0.56	8.8
9.0	0.47	0.34	0.24	0.18	0.13	0.10	0.08	0.07	3.1	2.3	1.6	1.2	0.87	0.69	0.54	0.44	9.0
	Salinity = 30 g/kg								**Salinity = 30 g/kg**								
7.0	47	31	22	15	11	7.2	5.0	3.4	312	208	148	102	71	48	33	23	7.0
7.2	29	20	14	9.7	6.6	4.7	3.1	2.2	196	135	94	64	44	31	21	15	7.2
7.4	19	13	8.7	5.6	4.1	2.9	2.0	1.4	125	85	58	40	27	19	13	9.4	7.4
7.6	12	8.1	5.6	3.7	3.1	1.8	1.3	0.90	79	54	37	25	21	12	8.5	6.0	7.6
7.8	7.5	5.0	3.4	2.4	1.7	1.2	0.81	0.56	50	33	23	16	11	7.9	5.4	3.7	7.8
8.0	4.7	3.1	2.2	1.6	1.1	0.75	0.53	0.37	31	21	15	10	7.3	5.0	3.5	2.5	8.0
8.2	3.0	2.1	1.4	1.0	0.69	0.50	0.34	0.25	20	14	9.6	6.7	4.6	3.3	2.3	1.7	8.2
8.4	1.9	1.3	0.90	0.62	0.44	0.31	0.23	0.17	12.7	8.7	6.0	4.2	2.9	2.1	1.6	1.1	8.4
8.6	1.2	0.84	0.59	0.41	0.30	0.22	0.16	0.12	8.1	5.6	4.0	2.7	2.0	1.4	1.1	0.81	8.6
8.8	0.78	0.53	0.37	0.27	0.20	0.15	0.11	0.09	5.2	3.5	2.5	1.8	1.3	1.0	0.75	0.58	8.8
9.0	0.50	0.34	0.26	0.19	0.14	0.11	0.08	0.07	3.3	2.3	1.7	1.2	0.94	0.71	0.56	0.46	9.0

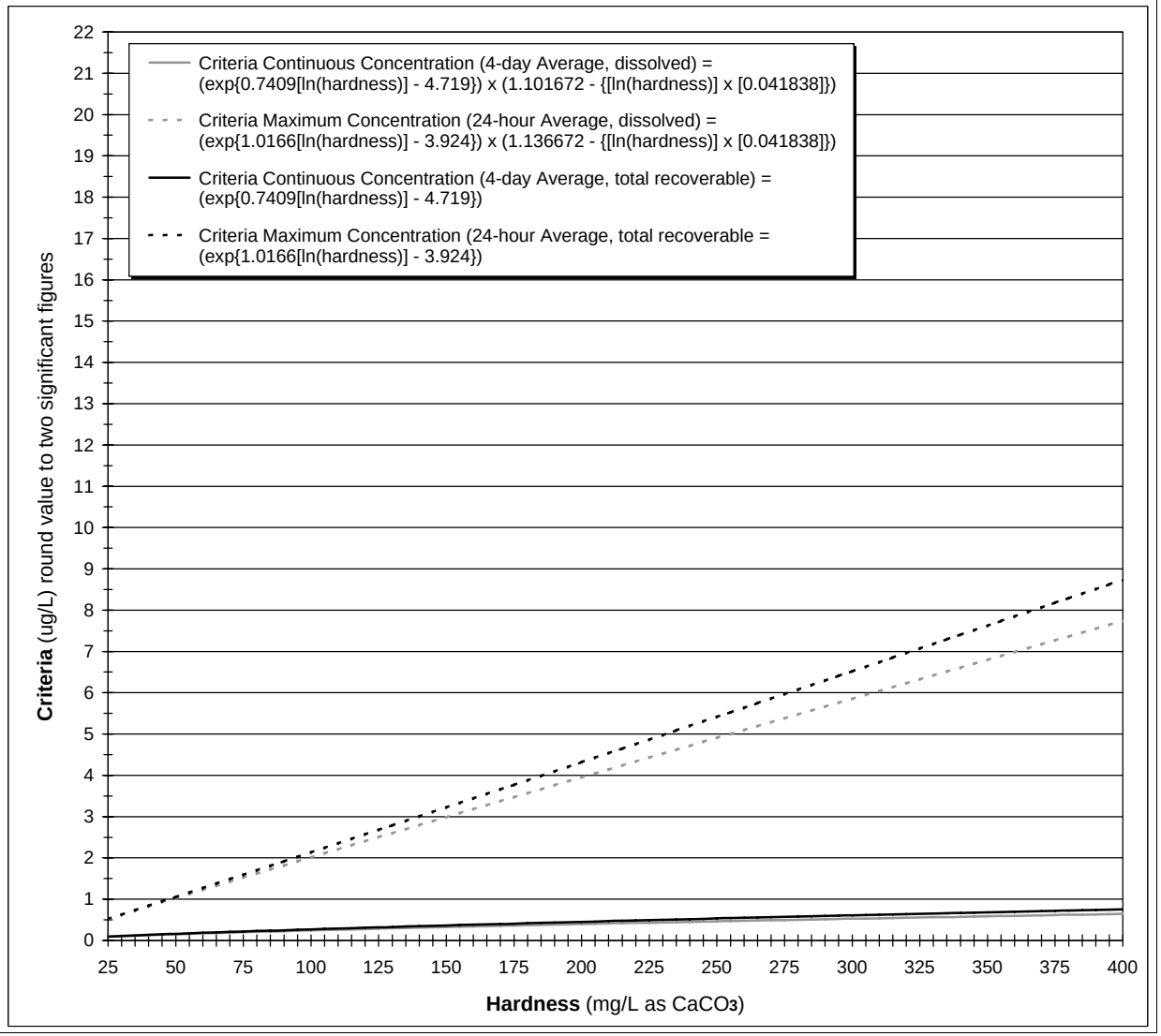
WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - CADMIUM

Hardness (mg/L as $CaCO_3$)	California Toxics Rule Criteria to Protect Freshwater Aquatic Life			
	Cadmium (ug/L)			
	Dissolved		Total Recoverable	
	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average
< 25	use formula	use formula	use formula	use formula
25	0.80	0.95	0.83	0.95
30	0.92	1.2	0.96	1.2
35	1.0	1.4	1.1	1.4
40	1.1	1.6	1.2	1.6
45	1.2	1.8	1.3	1.8
50	1.3	2.0	1.4	2.1
55	1.4	2.2	1.5	2.3
60	1.5	2.5	1.6	2.5
65	1.6	2.7	1.8	2.8
70	1.7	2.9	1.9	3.0
75	1.8	3.1	2.0	3.3
80	1.9	3.3	2.1	3.5
85	2.0	3.6	2.2	3.8
90	2.1	3.8	2.3	4.0
95	2.2	4.0	2.4	4.3
100	2.2	4.3	2.5	4.5
110	2.4	4.7	2.7	5.0
120	2.6	5.2	2.8	5.5
130	2.7	5.7	3.0	6.1
140	2.9	6.1	3.2	6.6
150	3.0	6.6	3.4	7.1
160	3.2	7.1	3.6	7.7
170	3.3	7.6	3.7	8.2
180	3.5	8.1	3.9	8.8
190	3.6	8.5	4.1	9.3
200	3.7	9.0	4.2	9.9
210	3.9	9.5	4.4	10
220	4.0	10	4.6	11
230	4.1	11	4.7	12
240	4.3	11	4.9	12
250	4.4	12	5.1	13
260	4.5	12	5.2	13
270	4.7	12	5.4	14
280	4.8	13	5.5	14
290	4.9	14	5.7	15
300	5.0	14	5.8	16
310	5.2	15	6.0	16
320	5.3	15	6.1	17
330	5.4	16	6.3	17
340	5.5	16	6.4	18
350	5.6	17	6.6	19
360	5.8	17	6.7	19
370	5.9	18	6.9	20
380	6.0	18	7.0	20
390	6.1	19	7.2	21
400	6.2	19	7.3	22
> 400	6.2	19	7.3	22



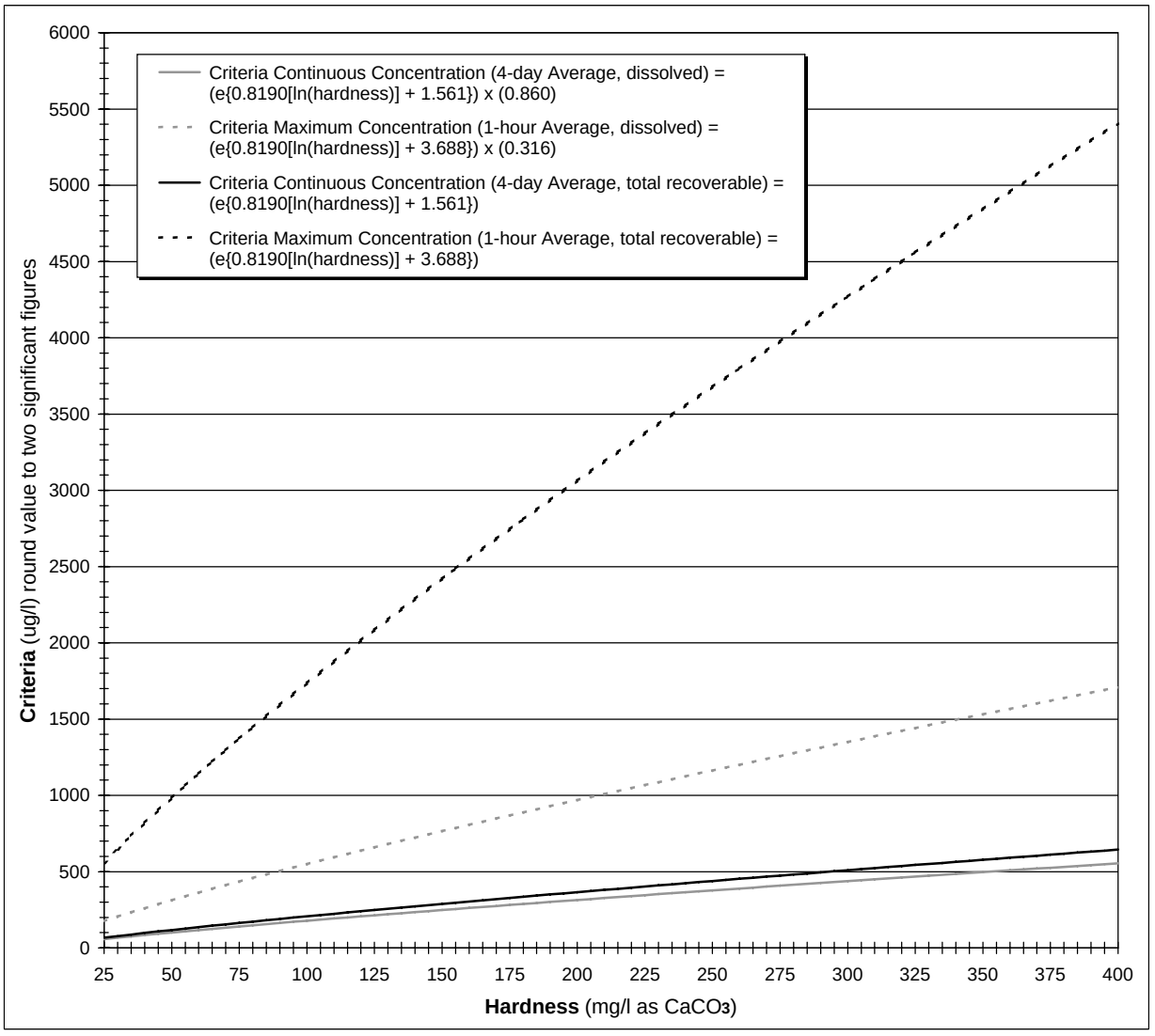
WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - CADMIUM

	USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life			
	Cadmium (ug/L)			
	Dissolved		Total Recoverable	
Hardness (mg/L as $CaCO_3$)	Continuous Conc. 4-day Average	Maximum Conc. 24-hr Average	Continuous Conc. 4-day Average	Maximum Conc. 24-hr Average
< 25	use formula	use formula	use formula	use formula
25	0.094	0.52	0.097	0.52
30	0.11	0.62	0.11	0.63
35	0.12	0.72	0.12	0.73
40	0.13	0.83	0.14	0.84
45	0.14	0.93	0.15	0.95
50	0.15	1.0	0.16	1.1
55	0.16	1.1	0.17	1.2
60	0.17	1.2	0.19	1.3
65	0.18	1.3	0.20	1.4
70	0.19	1.4	0.21	1.5
75	0.20	1.5	0.22	1.6
80	0.21	1.6	0.23	1.7
85	0.22	1.7	0.24	1.8
90	0.23	1.8	0.25	1.9
95	0.24	1.9	0.26	2.0
100	0.25	2.0	0.27	2.1
110	0.26	2.2	0.29	2.4
120	0.28	2.4	0.31	2.6
130	0.30	2.6	0.33	2.8
140	0.31	2.8	0.35	3.0
150	0.33	3.0	0.37	3.2
160	0.34	3.2	0.38	3.4
170	0.36	3.4	0.40	3.7
180	0.37	3.6	0.42	3.9
190	0.38	3.8	0.44	4.1
200	0.40	3.9	0.45	4.3
210	0.41	4.1	0.47	4.5
220	0.43	4.3	0.49	4.8
230	0.44	4.5	0.50	5.0
240	0.45	4.7	0.52	5.2
250	0.46	4.9	0.53	5.4
260	0.48	5.1	0.55	5.6
270	0.49	5.3	0.56	5.9
280	0.50	5.5	0.58	6.1
290	0.51	5.7	0.60	6.3
300	0.53	5.9	0.61	6.5
310	0.54	6.0	0.63	6.7
320	0.55	6.2	0.64	7.0
330	0.56	6.4	0.66	7.2
340	0.57	6.6	0.67	7.4
350	0.59	6.8	0.68	7.6
360	0.60	7.0	0.70	7.8
370	0.61	7.2	0.71	8.1
380	0.62	7.4	0.73	8.3
390	0.63	7.5	0.74	8.5
400	0.64	7.7	0.76	8.7
> 400	0.64	7.7	0.76	8.7



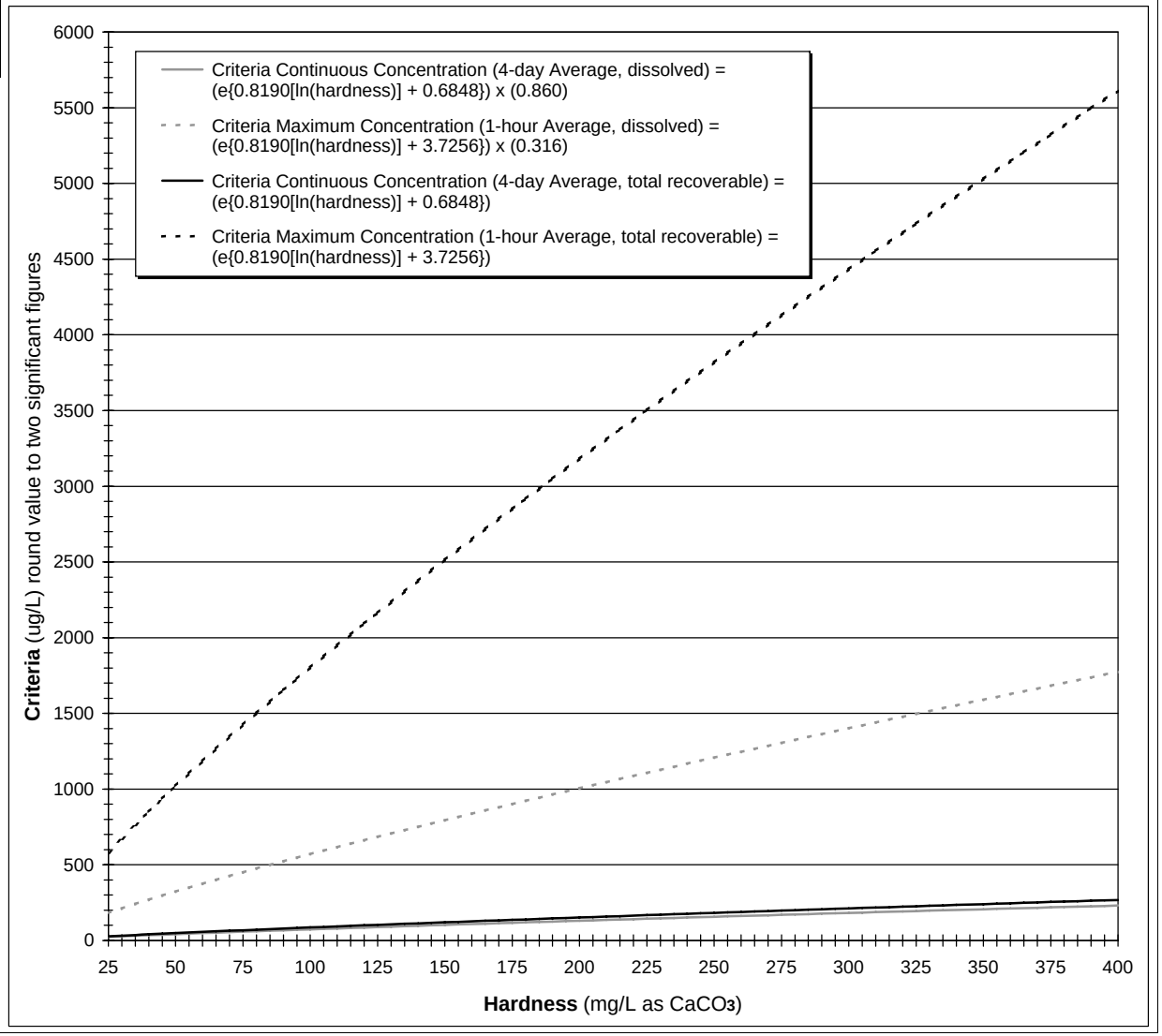
WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - CHROMIUM (III)

	National Toxics Rule Criteria to Protect Freshwater Aquatic Life in California Waters			
	Chromium (III) (ug/L)			
	Dissolved		Total Recoverable	
Hardness (mg/l as $CaCO_3$)	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average
< 25	use formula	use formula	use formula	use formula
25	57	180	67	560
30	66	200	77	650
35	75	230	88	730
40	84	260	98	820
45	93	290	110	900
50	100	310	120	980
55	110	340	130	1100
60	120	360	140	1100
65	130	390	150	1200
70	130	410	150	1300
75	140	430	160	1400
80	150	460	170	1400
85	160	480	180	1500
90	160	500	190	1600
95	170	530	200	1700
100	180	550	210	1700
110	190	590	220	1900
120	210	640	240	2000
130	220	680	260	2200
140	230	720	270	2300
150	250	760	290	2400
160	260	810	300	2600
170	270	850	320	2700
180	290	890	330	2800
190	300	930	350	2900
200	310	970	370	3100
210	330	1000	380	3200
220	340	1000	390	3300
230	350	1100	410	3400
240	360	1100	420	3600
250	380	1200	440	3700
260	390	1200	450	3800
270	400	1200	470	3900
280	410	1300	480	4000
290	430	1300	500	4200
300	440	1300	510	4300
310	450	1400	520	4400
320	460	1400	540	4500
330	470	1500	550	4600
340	480	1500	560	4700
350	500	1500	580	4800
360	510	1600	590	5000
370	520	1600	600	5100
380	530	1600	620	5200
390	540	1700	630	5300
400	550	1700	640	5400
> 400	550	1700	640	5400



WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - CHROMIUM (III)

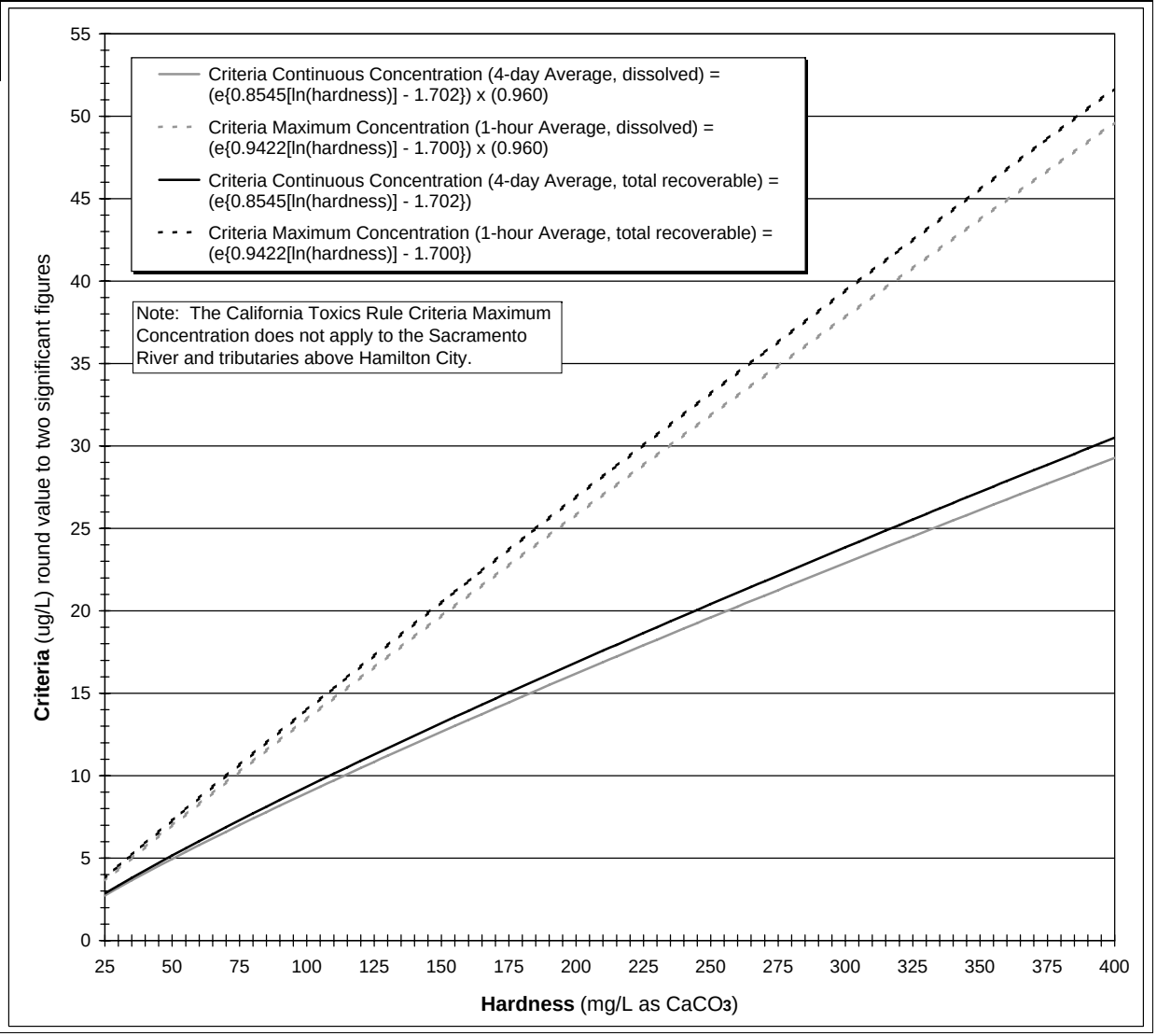
	USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life			
	Chromium (III) (ug/L)			
	Dissolved		Total Recoverable	
Hardness (mg/L as $CaCO_3$)	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average
< 25	use formula	use formula	use formula	use formula
25	24	180	28	580
30	28	210	32	670
35	31	240	36	760
40	35	270	41	850
45	39	300	45	940
50	42	320	49	1000
55	45	350	53	1100
60	49	370	57	1200
65	52	400	61	1300
70	55	430	64	1300
75	59	450	68	1400
80	62	470	72	1500
85	65	500	75	1600
90	68	520	79	1700
95	71	550	83	1700
100	74	570	86	1800
110	80	620	93	1900
120	86	660	100	2100
130	92	710	110	2200
140	98	750	110	2400
150	100	790	120	2500
160	110	840	130	2600
170	110	880	130	2800
180	120	920	140	2900
190	130	960	150	3100
200	130	1000	150	3200
210	140	1000	160	3300
220	140	1100	160	3400
230	150	1100	170	3600
240	150	1200	180	3700
250	160	1200	180	3800
260	160	1200	190	3900
270	170	1300	190	4100
280	170	1300	200	4200
290	180	1400	210	4300
300	180	1400	210	4400
310	190	1400	220	4600
320	190	1500	220	4700
330	200	1500	230	4800
340	200	1600	230	4900
350	210	1600	240	5000
360	210	1600	250	5100
370	220	1700	250	5300
380	220	1700	260	5400
390	230	1700	260	5500
400	230	1800	270	5600
> 400	230	1800	270	5600



WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - COPPER

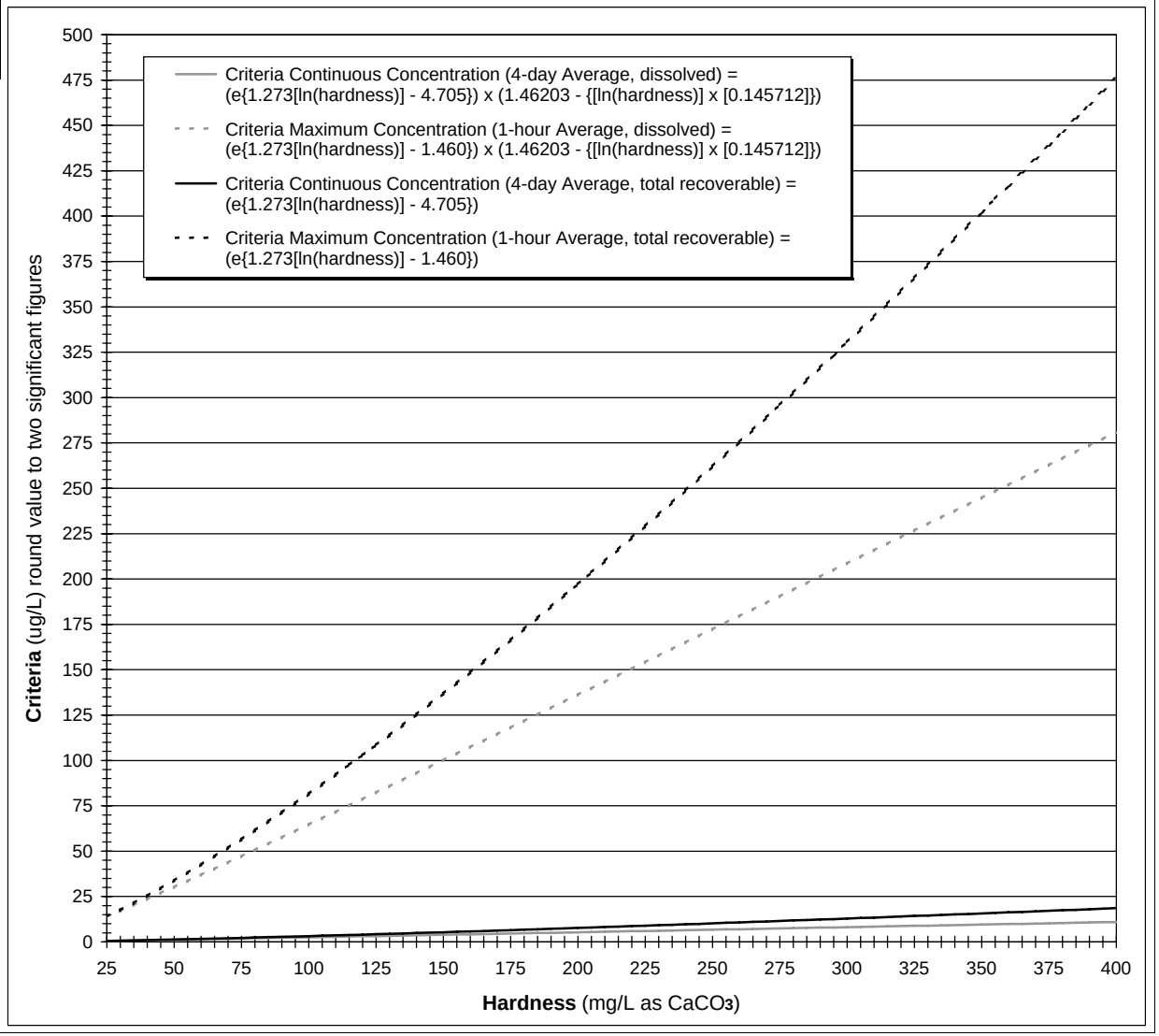
California Toxics Rule Criteria to Protect Freshwater Aquatic Life

Hardness (mg/L as $CaCO_3$)	Copper (ug/L) Dissolved Continuous Conc. 4-day Average	Copper (ug/L) Dissolved Maximum Conc. 1-hour Average	Copper (ug/L) Total Recoverable Continuous Conc. 4-day Average	Copper (ug/L) Total Recoverable Maximum Conc. 1-hour Average
< 25	use formula	use formula	use formula	use formula
25	2.7	3.6	2.9	3.8
30	3.2	4.3	3.3	4.5
35	3.7	5.0	3.8	5.2
40	4.1	5.7	4.3	5.9
45	4.5	6.3	4.7	6.6
50	5.0	7.0	5.2	7.3
55	5.4	7.7	5.6	8.0
60	5.8	8.3	6.0	8.7
65	6.2	9.0	6.5	9.3
70	6.6	9.6	6.9	10
75	7.0	10	7.3	11
80	7.4	11	7.7	11
85	7.8	12	8.1	12
90	8.2	12	8.5	13
95	8.6	13	8.9	13
100	9.0	13	9.3	14
110	9.7	15	10	15
120	10	16	11	17
130	11	17	12	18
140	12	18	12	19
150	13	20	13	21
160	13	21	14	22
170	14	22	15	23
180	15	23	15	24
190	15	25	16	26
200	16	26	17	27
210	17	27	18	28
220	18	28	18	29
230	18	29	19	31
240	19	31	20	32
250	20	32	20	33
260	20	33	21	34
270	21	34	22	36
280	22	35	22	37
290	22	37	23	38
300	23	38	24	39
310	24	39	25	41
320	24	40	25	42
330	25	41	26	43
340	25	43	27	44
350	26	44	27	46
360	27	45	28	47
370	27	46	29	48
380	28	47	29	49
390	29	48	30	50
400	29	50	30	52
> 400	29	50	30	52



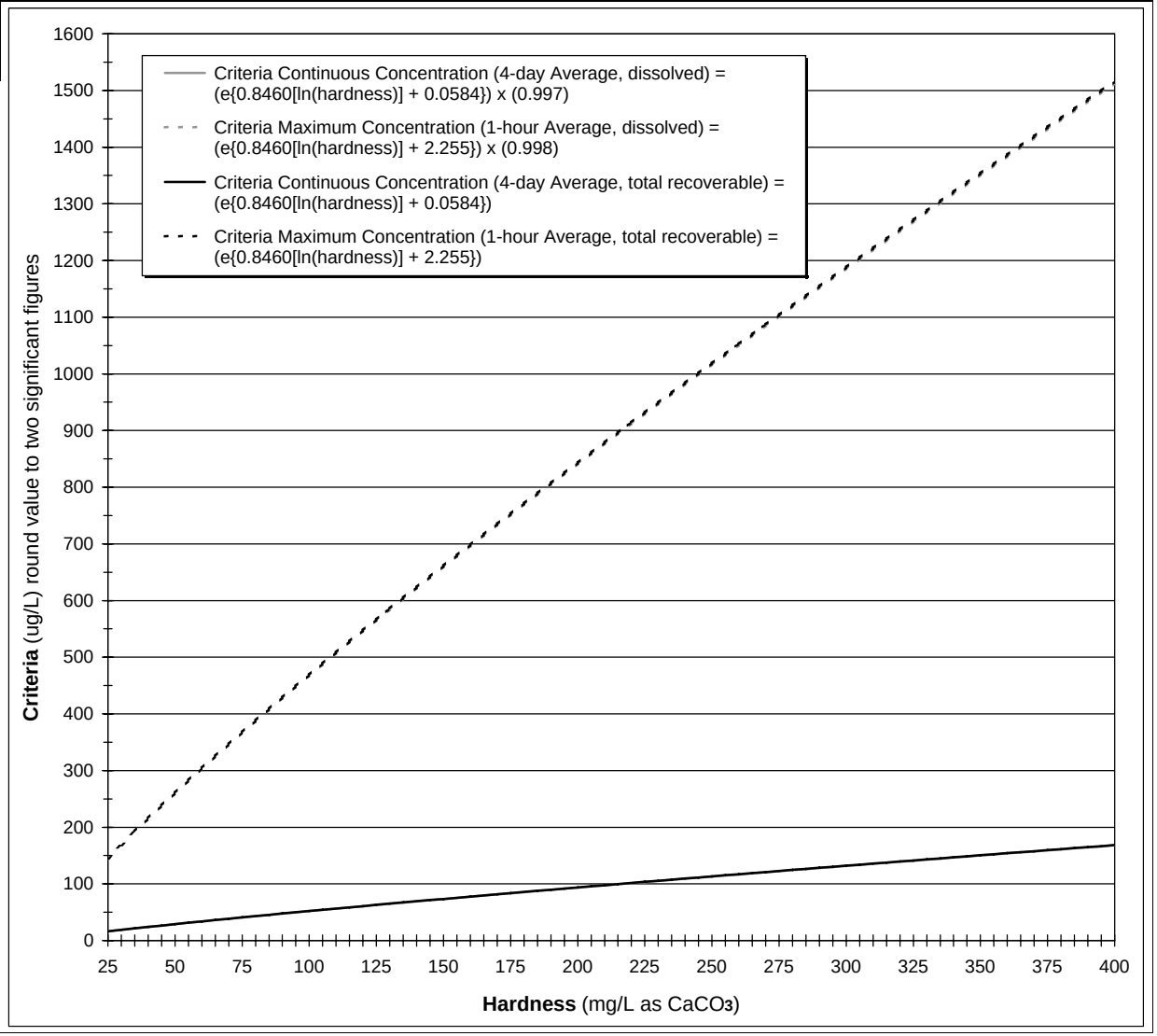
WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - LEAD

Hardness (mg/L as $CaCO_3$)	California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life — Lead (ug/L)			
	Dissolved		Total Recoverable	
	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average
< 25	use formula	use formula	use formula	use formula
25	0.54	14	0.54	14
30	0.66	17	0.69	18
35	0.79	20	0.84	21
40	0.92	24	0.99	25
45	1.0	27	1.2	30
50	1.2	30	1.3	34
55	1.3	33	1.5	38
60	1.4	37	1.7	43
65	1.6	40	1.8	47
70	1.7	44	2.0	52
75	1.8	47	2.2	57
80	2.0	51	2.4	61
85	2.1	54	2.6	66
90	2.2	58	2.8	71
95	2.4	61	3.0	76
100	2.5	65	3.2	82
110	2.8	72	3.6	92
120	3.1	79	4.0	100
130	3.3	86	4.4	110
140	3.6	93	4.9	130
150	3.9	100	5.3	140
160	4.2	110	5.8	150
170	4.5	110	6.3	160
180	4.7	120	6.7	170
190	5.0	130	7.2	180
200	5.3	140	7.7	200
210	5.6	140	8.2	210
220	5.9	150	8.7	220
230	6.2	160	9.2	240
240	6.4	170	9.7	250
250	6.7	170	10	260
260	7.0	180	11	280
270	7.3	190	11	290
280	7.6	190	12	300
290	7.8	200	12	320
300	8.1	210	13	330
310	8.4	220	13	340
320	8.7	220	14	360
330	9.0	230	15	370
340	9.3	240	15	390
350	9.5	240	16	400
360	9.8	250	16	420
370	10	260	17	430
380	10	270	17	450
390	11	270	18	460
400	11	280	19	480
> 400	11	280	19	480



WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - NICKEL

Hardness (mg/L as $CaCO_3$)	California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life — Nickel (ug/L)			
	Dissolved		Total Recoverable	
	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average
< 25	use formula	use formula	use formula	use formula
25	16	140	16	150
30	19	170	19	170
35	21	190	21	190
40	24	220	24	220
45	26	240	27	240
50	29	260	29	260
55	31	280	31	280
60	34	300	34	300
65	36	330	36	330
70	38	350	39	350
75	41	370	41	370
80	43	390	43	390
85	45	410	45	410
90	48	430	48	430
95	50	450	50	450
100	52	470	52	470
110	56	510	57	510
120	61	550	61	550
130	65	580	65	590
140	69	620	69	620
150	73	660	74	660
160	77	700	78	700
170	81	730	82	740
180	86	770	86	770
190	90	810	90	810
200	93	840	94	840
210	97	880	98	880
220	100	910	100	910
230	110	950	110	950
240	110	980	110	980
250	110	1000	110	1000
260	120	1100	120	1100
270	120	1100	120	1100
280	120	1100	120	1100
290	130	1200	130	1200
300	130	1200	130	1200
310	140	1200	140	1200
320	140	1300	140	1300
330	140	1300	140	1300
340	150	1300	150	1300
350	150	1400	150	1400
360	150	1400	150	1400
370	160	1400	160	1400
380	160	1400	160	1500
390	160	1500	160	1500
400	170	1500	170	1500
> 400	170	1500	170	1500



	USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life — Dissolved Oxygen (mg/L)				
	Coldwater Criteria			Warmwater Criteria	
	Early Life Stages (a,b)		Other Life Stages	Early Life Stages (b)	Other Life Stages
	Water Column	Intergravel			
30-Day Mean	Not Applicable	Not Applicable	6.5	Not Applicable	5.5
7-Day Mean	9.5	6.5	Not Applicable	6.0	Not Applicable
7-Day Mean Minimum	Not Applicable	Not Applicable	5.0	Not Applicable	4.0
1-Day Minimum (c)	8.0	5.0	3.0	5.0	3.0

Notes:

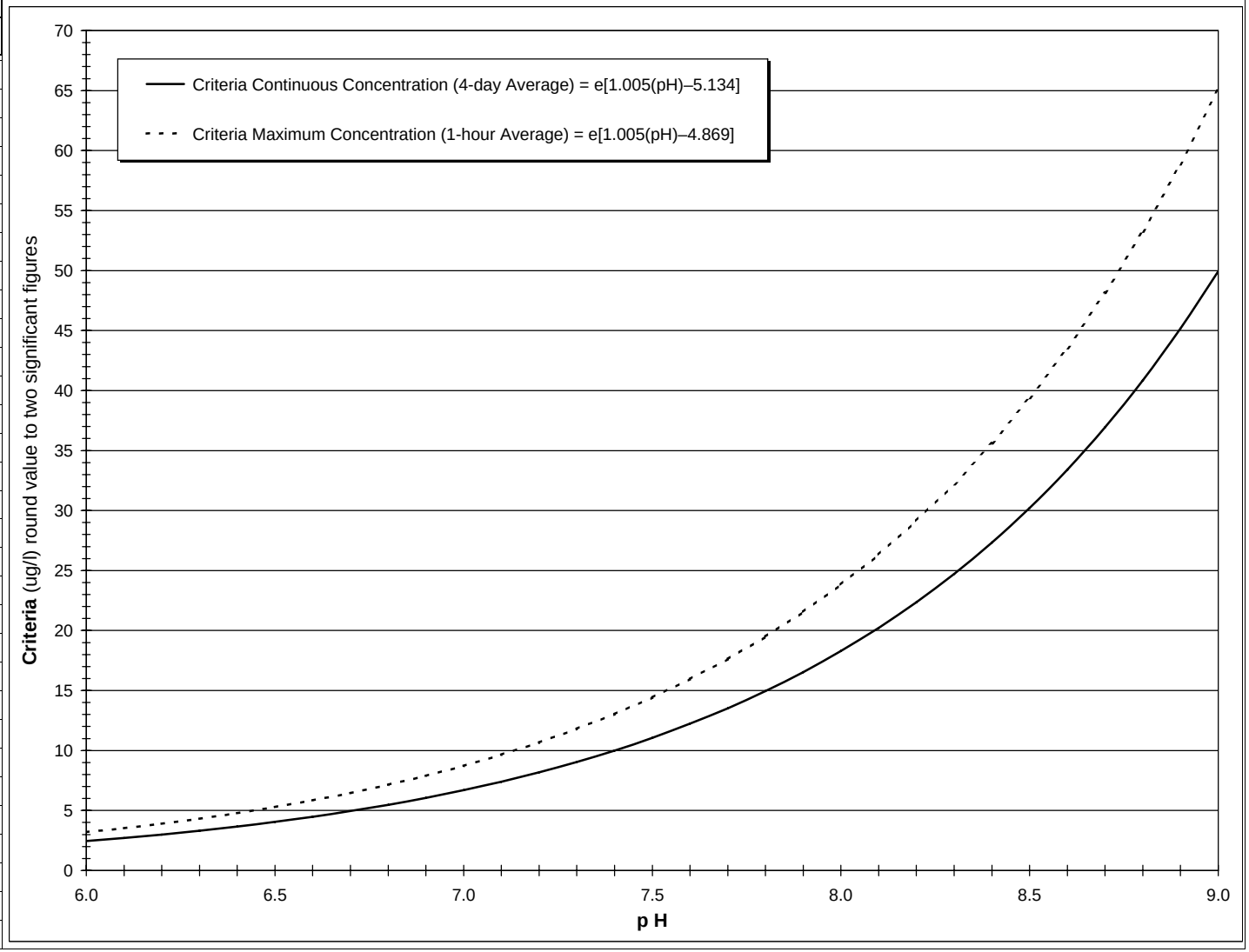
(a) The water column concentrations are recommended to achieve the required intergravel dissolved oxygen concentrations. For species that have early life stages exposed directly to the water column, the intergravel concentrations apply.

(b) Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.

(c) For reservoire or other manipulable discharges, the application of the one day minimum criterion must limit either the frequency of occurrence of values below the acceptable 7-day mean minimum or must impose further limits on the extent of excursions below the 7-day mean minimum. For such controlled discharges, it is recommended that the occurrence of the daily minima below the acceptable 7-day mean mimimum be limited to 3 weeks per year or that the acceptable one-day minimum be increased to 4.0 mg/L for coldwater fish and 3.5 mg/L for warmwater fish.

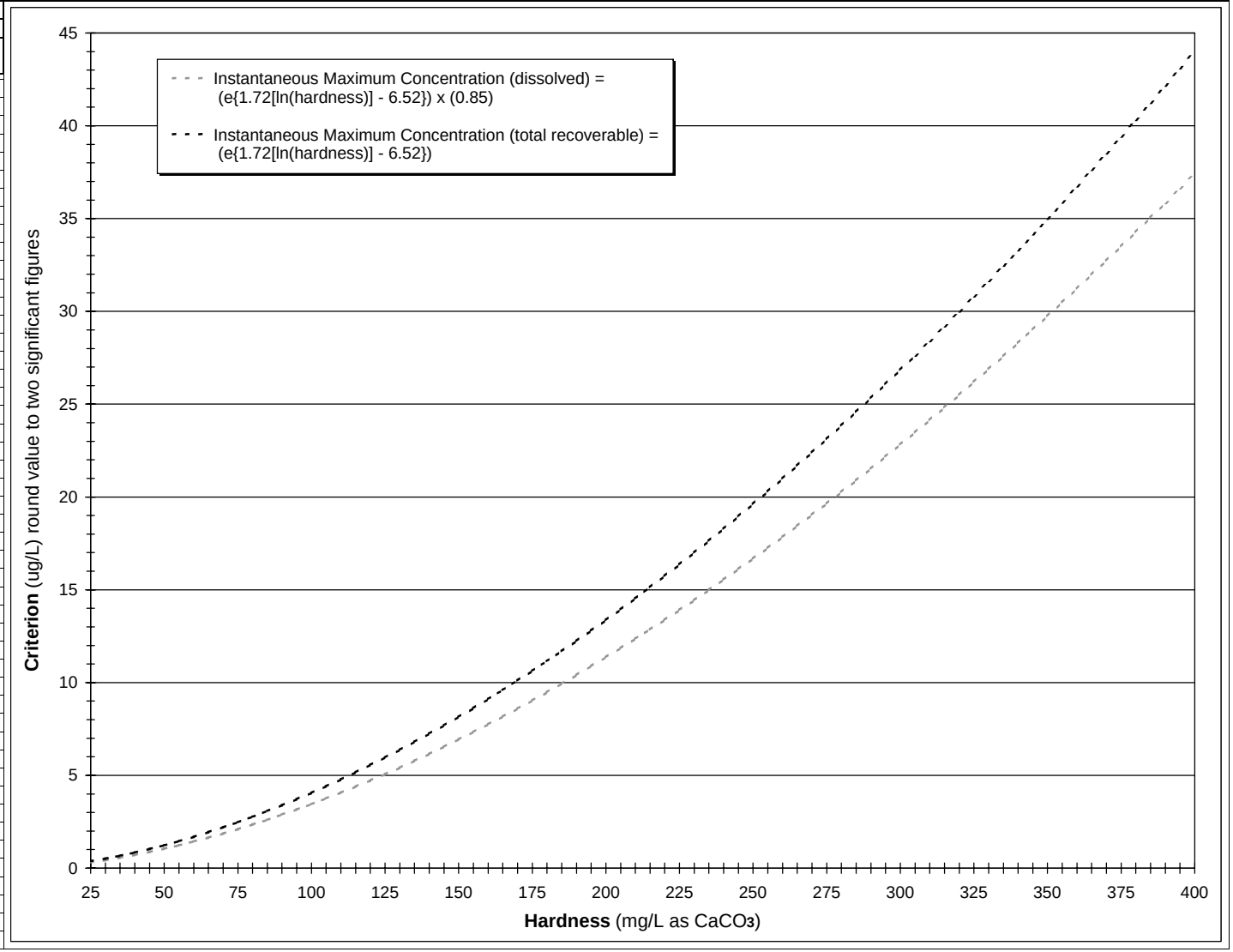
WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - PENTACHLOROPHENOL

	California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life	
	Pentachlorophenol	
pH	Continuous Conc. 4-day Average (ug/l)	Maximum Conc. 1-hour Average (ug/l)
6.0	2.4	3.2
6.1	2.7	3.5
6.2	3.0	3.9
6.3	3.3	4.3
6.4	3.7	4.8
6.5	4.0	5.3
6.6	4.5	5.8
6.7	5.0	6.5
6.8	5.5	7.1
6.9	6.1	7.9
7.0	6.7	8.7
7.1	7.4	9.6
7.2	8.2	11
7.3	9.0	12
7.4	10	13
7.5	11	14
7.6	12	16
7.7	14	18
7.8	15	19
7.9	17	22
8.0	18	24
8.1	20	26
8.2	22	29
8.3	25	32
8.4	27	36
8.5	30	39
8.6	33	44
8.7	37	48
8.8	41	53
8.9	45	59
9.0	50	65



WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - SILVER

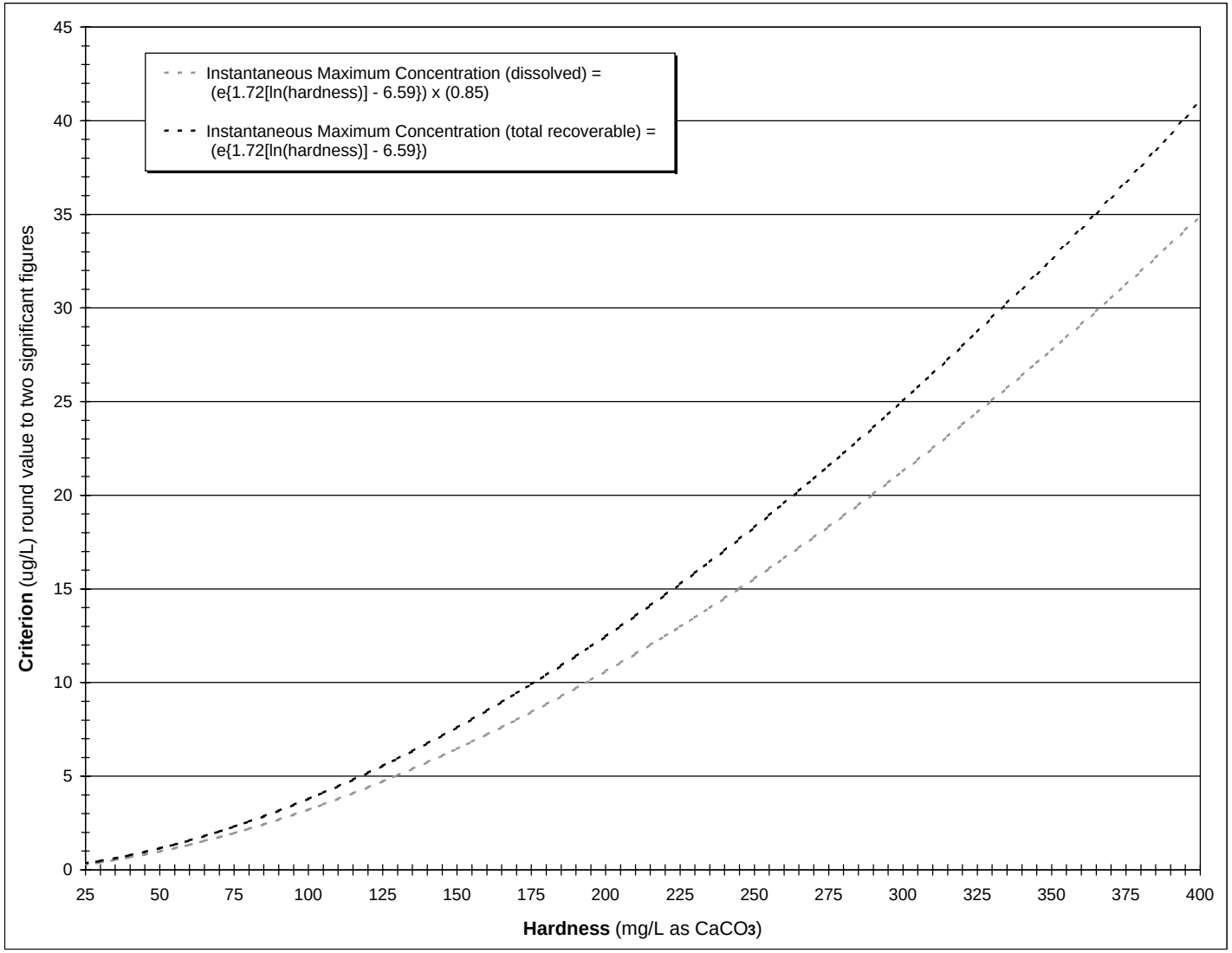
Hardness (mg/L as $CaCO_3$)	Silver (ug/) Dissolved Instantaneous Maximum	Silver (ug/) Total Recoverable Instantaneous Maximum
< 25	use formula	use formula
25	0.32	0.37
30	0.43	0.51
35	0.57	0.67
40	0.71	0.84
45	0.87	1.03
50	1.0	1.23
55	1.2	1.45
60	1.4	1.69
65	1.6	1.93
70	1.9	2.2
75	2.1	2.5
80	2.4	2.8
85	2.6	3.1
90	2.9	3.4
95	3.2	3.7
100	3.4	4.1
110	4.1	4.8
120	4.7	5.6
130	5.4	6.4
140	6.2	7.2
150	6.9	8.2
160	7.7	9.1
170	8.6	10
180	9.5	11
190	10	12
200	11	13
210	12	15
220	13	16
230	14	17
240	16	18
250	17	20
260	18	21
270	19	22
280	20	24
290	22	25
300	23	27
310	24	28
320	26	30
330	27	32
340	28	33
350	30	35
360	31	37
370	33	39
380	34	40
390	36	42
400	37	44
> 400	37	44



WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - SILVER

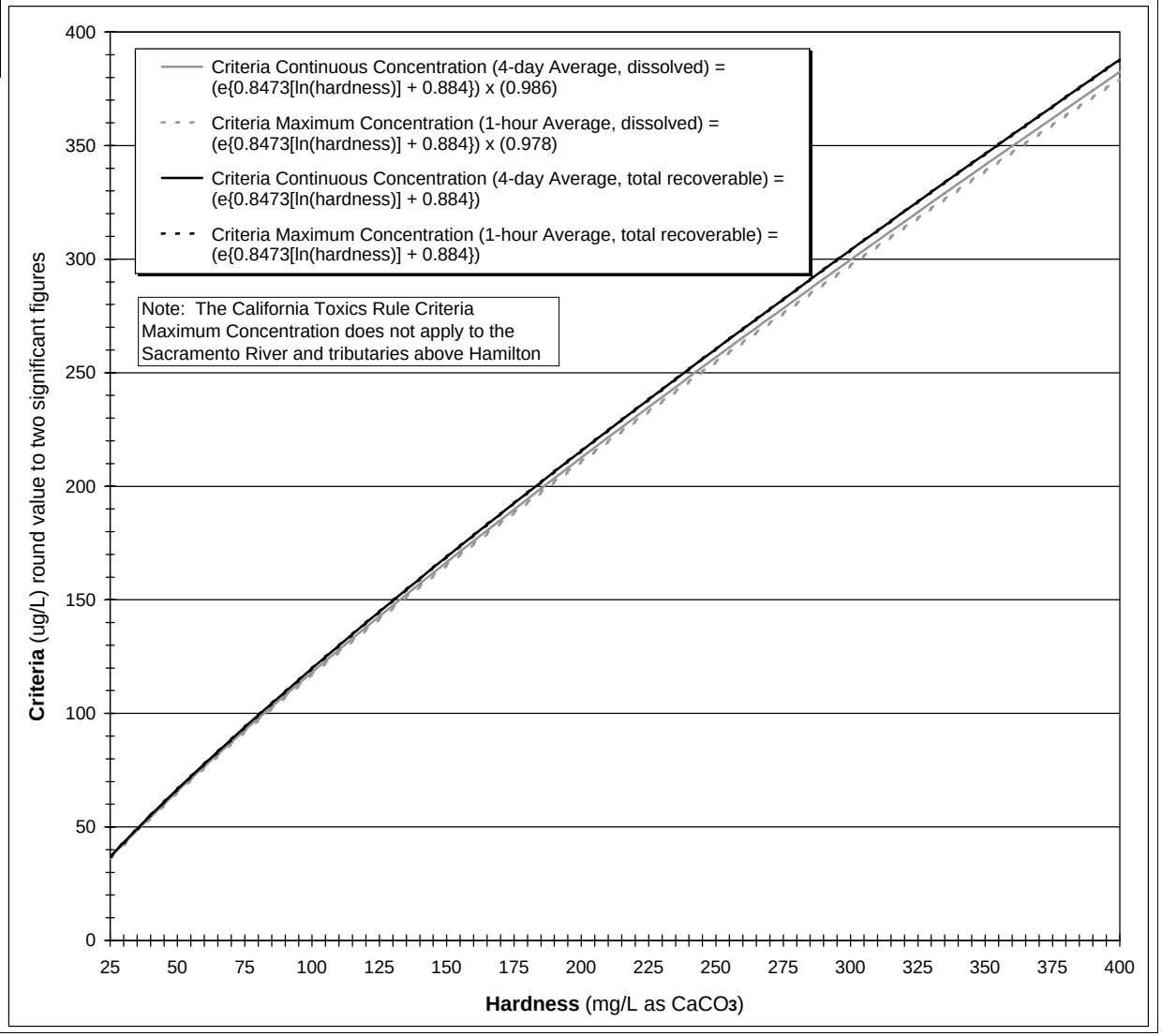
Hardness (mg/L as $CaCO_3$)	Silver (ug/L) Dissolved Instantaneous Maximum	Silver (ug/L) Total Recoverable Instantaneous Maximum
< 25	use formula	use formula
25	0.30	0.35
30	0.41	0.48
35	0.53	0.62
40	0.67	0.78
45	0.81	0.96
50	0.98	1.1
55	1.2	1.4
60	1.3	1.6
65	1.5	1.8
70	1.7	2.0
75	2.0	2.3
80	2.2	2.6
85	2.4	2.9
90	2.7	3.2
95	2.9	3.5
100	3.2	3.8
110	3.8	4.5
120	4.4	5.2
130	5.1	5.9
140	5.7	6.8
150	6.5	7.6
160	7.2	8.5
170	8.0	9.4
180	8.8	10
190	9.7	11
200	11	12
210	12	14
220	12	15
230	13	16
240	15	17
250	16	18
260	17	20
270	18	21
280	19	22
290	20	24
300	21	25
310	23	26
320	24	28
330	25	30
340	26	31
350	28	33
360	29	34
370	31	36
380	32	38
390	33	39
400	35	41
> 400	35	41

USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life



WATER QUALITY LIMITS FOR CONSTITUENTS AND PARAMETERS
FRESHWATER AQUATIC LIFE - ZINC

	California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life			
	Zinc (ug/L)			
	Dissolved		Total Recoverable	
Hardness (mg/L as $CaCO_3$)	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average	Continuous Conc. 4-day Average	Maximum Conc. 1-hour Average
< 25	use formula	use formula	use formula	use formula
25	36	36	37	37
30	43	42	43	43
35	49	48	49	49
40	54	54	55	55
45	60	60	61	61
50	66	65	67	67
55	71	71	72	72
60	77	76	78	78
65	82	81	83	83
70	87	87	89	89
75	93	92	94	94
80	98	97	99	99
85	100	100	100	100
90	110	110	110	110
95	110	110	110	110
100	120	120	120	120
110	130	130	130	130
120	140	140	140	140
130	150	150	150	150
140	160	160	160	160
150	170	170	170	170
160	180	170	180	180
170	190	180	190	190
180	190	190	200	200
190	200	200	210	210
200	210	210	220	220
210	220	220	220	220
220	230	230	230	230
230	240	240	240	240
240	250	250	250	250
250	260	250	260	260
260	270	260	270	270
270	270	270	280	280
280	280	280	290	290
290	290	290	300	300
300	300	300	300	300
310	310	310	310	310
320	320	310	320	320
330	320	320	330	330
340	330	330	340	340
350	340	340	350	350
360	350	350	350	350
370	360	360	360	360
380	370	360	370	370
390	370	370	380	380
400	380	380	390	390
> 400	380	380	390	390



FOOTNOTES

F O O T N O T E S

(7-day) For exposure of 7 days or less.
(10-day) For exposure of 10 days or less.
(24-hr) For exposure of 24 hours or less.
(A) Class A: Known human carcinogen; sufficient epidemiologic evidence in humans. Carcinogenic to humans (U.S. Environmental Protection Agency, 1986 Guidelines for Carcinogen Risk Assessment).
(B) Class B: Probable human carcinogen. Likely to be carcinogenic to humans (U.S. Environmental Protection Agency, 1986 Guidelines for Carcinogen Risk Assessment).
(B1) Class B1: Probable human carcinogen; limited epidemiologic evidence in humans. Likely to be carcinogenic to humans (U.S. Environmental Protection Agency, 1986 Guidelines for Carcinogen Risk Assessment).
(B2) Class B2: Probable human carcinogen; sufficient evidence from animal studies; no or inadequate human data. Likely to be carcinogenic to humans (U.S. Environmental Protection Agency, 1986 Guidelines for Carcinogen Risk Assessment).
(C) Class C: Possible human carcinogen; limited evidence from animal studies; no human data. Suggestive evidence of carcinogenic potential (U.S. Environmental Protection Agency, 1986 Guidelines for Carcinogen Risk Assessment).
(D) Class D: Not classifiable as to human carcinogenicity; no data or inadequate evidence. Inadequate information to assess carcinogenic potential (U.S. Environmental Protection Agency, 1986 Guidelines for Carcinogen Risk Assessment).
(E) Class E: Evidence of non-carcinogenicity for humans. Not likely to be carcinogenic to humans (U.S. Environmental Protection Agency, 1986 Guidelines for Carcinogen Risk Assessment).
(H) Carcinogenic to humans (U.S. Environmental Protection Agency, 2005 Guidelines for Carcinogen Risk Assessment).
(I) Inadequate information to assess carcinogenic potential (U.S. Environmental Protection Agency, 2005 Guidelines for Carcinogen Risk Assessment).
(L) Likely to be carcinogenic to humans (U.S. Environmental Protection Agency, 2005 Guidelines for Carcinogen Risk Assessment).
(L/N) Likely to be carcinogenic above a specified dose but not likely to be carcinogenic below that does because a key event in tumor formation does not occur below that dose (U.S. Environmental Protection Agency, 2005 Guidelines for Carcinogen Risk Assessment).
(N) Not likely to be carcinogenic to humans (U.S. Environmental Protection Agency, 2005 Guidelines for Carcinogen Risk Assessment).
(S) Suggestive evidence of carcinogenic potential (U.S. Environmental Protection Agency, 2005 Guidelines for Carcinogen Risk Assessment).
(1) Expressed as dissolved.
(2) Expressed as total recoverable.
(3) Now covered by the Primary MCL for Gross Beta Radioactivity.
(4) For dissolved chloride associated with sodium; criterion probably will not be adequately protective wher chloride is associated with potassium, calcium, or magnesium, rather than sodium
(5) For inorganic oxides; draft value.
(6) Pentavalent arsenic [As(V)] effects on plants.
(7) First value calculated for child; second value calculated for adult.
(8) Advisory concentration; U.S. EPA Water Quality Advisory; Reference 13.
(9) As CaCO3; minimum concentration except where natural concentrations are less.
(10) USEPA Drinking Water Advisory. From Reference 33.
(11) For dinitrophenols.
(12) Value developed for chromium (VI); may be applied to total chromium if valence unknown.
(13) For sum of bromoform, bromomethane and chloromethane.
(14) Regulatory dose level divided by 2 liters per day average consumption; represents a 1-in-100,000 incremental cancer risk estimate or 1/1000 of the No Observed Effect Level for reproductive toxicity.
(15) Determined to present no significant risk of cancer by the route of ingestion (Title 22, California Code of Regulation, Section 12707).
(16) Toxicity to one species of fish after 2600 hours of exposure.
(17) Mortality in a fish species after 30 day exposure.
(18) Applies separately to endrin and endrin aldehyde.
(19) For total trihalomethanes (sum of bromoform, bromodichloromethane, chloroform and dibromochloromethane); based largely on technology and economics.
(20) For halomethanes.
(21) Based on limited evidence.
(22) For chlorinated benzenes.
(23) Toxicity to a fish species exposed for 7.5 days.
(24) For dichlorobenzenes.
(25) 1983 Suggested-No-Adverse-Response Level; to be reviewed in the future.
(26) From Reference 8.
(27) For dichloroethylenes.
(28) For dichloropropanes.
(29) For dichloropropenes.
(30) This limit has a range of values between the first and second numbers shown.
(31) Adverse behavioral effects occur to one species.
(32) First value is an upper bound estimate, while second value is a central tendency estimate of risk.
(33) For sum of acenaphthylene, anthracene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluorene, indeno(1,2,3-c,d)pyrene, phenanthrene, and pyrene.
(34) Flavor impairment in a fish species occurs.
(35) Mortality to early life stages of a fish species occurs.
(36) Based on analytical quantitation limit available at the time the limit was established. Adverse water quality impacts may occur at lower concentrations.
(37) For mononitrophenols.
(38) Toxicity to algae occurs.
(39) Cancer risk at Notification Level is 5 in 1,000,000. 1 in 1,000,000 cancer risk at 0.002 ug/L.
(40) For white phosphorus.
(41) For carcinogenic polynuclear aromatic hydrocarbons.
(42) For endosulfan-alpha, endosulfan-beta and endosulfan sulfate.
(43) For benzene hexachloride isomers.
(44) First value calculated from corn oil gavage animal study; second value calculated from drinking water animal study.
(45) For sum of phthalate esters.
(46) For chloroalkyl ethers.
(47) For tetrachloroethanes.
(48) For chlorinated naphthalenes.
(49) 1980 U.S. EPA Suggested-No-Adverse-Response Level.
(50) For DDT, DDD, and DDE, in combination.
(51) This criterion is from a 1976 USEPA reference and also appears in the current list of recommended criteria published by USEPA. From Reference 9.
(52) For polynuclear aromatic hydrocarbons.
(53) For dinitrotoluenes.
(54) This criterion is from a 1973 USEPA reference, but it does not appear in the current list of recommended criteria published by USEPA. From Reference 20.
(55) From Reference 30.
(56) For nitrosamines.
(57) Guidance level to protect those individuals restricted to a total sodium intake of 500 mg/day; Reference 33.
(58) For haloethers.
(59) Chronic Suggested-No-Adverse-Response Level was estimated to be 100-fold lower than the listed 24-hour value in calculating this level
(60) Calculated from published Reference Dose using assumptions of 70 kg body weight, 2 liters/day water consumption, and 20% relative source contribution from drinking water. An additional uncertainty factor of 10 is used for Class C and S carcinogens.
(61) 6-month median.
(62) For pH between 6.5 and 9.0. Use of Water-Effects Ratios might be appropriate because: (1) aluminum is less toxic at higher pH and hardness but relationship not well quantified; (2) aluminum associated with clay particles may be less toxic than that associated with aluminum hydroxide particles; (3) many high quality waters in U.S. exceed 87 ug/L as total or dissolved.
(63) Average chain length, C12; approximately 60% chlorine by weight.
(64) Based on kepone.
(65) Value for 2,4-dinitrotoluene, 2,6-dinitrotoluene, the technical grade of either chemical or a mixture of isomers.

F O O T N O T E S

(66) Measured as Cl. Maximum residual disinfectant level and goal. Applies only if this disinfectant is used.
(67) Measured as ClO2. Maximum residual disinfectant level and goal. Applies only if this disinfectant is used.
(68) Draft / tentative / provisional; applies only to second value if two separate values are listed; applies to range if a range of values is listed.
(69) For Arochlor 1260.
(70) At pH 6.8, caused 50% reduction in growth of yearling sockeye salmon in 56-day test.
(71) May be present as a decomposition product in Ferbam, Maneb, Nabam, Thiram, Zineb, and Ziram.
(72) As NO3; in addition, MCL for total nitrate plus nitrite = 10,000 ug/L (as N).
(73) Recommended level; Upper level = 500 mg/L; Short-term level = 600 mg/L.
(74) Recommended level; Upper level = 1600 umhos/cm; Short-term level = 2200 umhos/cm.
(75) Recommended level; Upper level = 1000 mg/L; Short-term level = 1500 mg/L.
(76) For "TCDD equivalents" calculated as the sum of 2,3,7,8-chlorinated dibenzodioxin and dibenzofuran concentrations multiplied by their respecitve USEPA Toxicity Equivalency Factors. See page 26 of Reference 28.
(77) For 1,2- and 1-3-dichlorobenzenes.
(78) Unless otherwise noted, from Reference 19.
(79) For elemental phosphorus; marine or estuarine.
(80) Instantaneous maximum.
(81) For oxychlordane and alpha and gamma isomers of chlordane, chlordene and nonachlor.
(82) A decrease in the number of algal cells occurs.
(83) Adverse effects on a fish species exposed for 168 days.
(84) Systems that use conventional or direct filtration may not exceed 1 NTU at any time or 0.3 NTU for 95th percentile value; stems that use other "alteranative" filtration systems may not exceed 5 NTU at any time or 1 NTU for 95th percentile value.
(85) Expressed as total recoverable; this National Toxics Rule criterion applies to SF Bay through Susuin Bay and Sacramento-San Joaquin Delta, Salt Slough, Mud Slough (north), and San Joaquin River,Sack Dam to mouth of Merced River; does not apply to San Joaquin River, mouth of Merced to Vernalis; see reference 23.
(86) For nonchlorinated phenolic compounds.
(87) For chlorinated phenolic compounds.
(88) For nitrophenols.
(89) Expressed as nitrogen.
(90) For total chlorine residual; for intermittent chlorine sources see Chapter IV, Table B of Reference 28.
(91) Second value from Reference 16.
(92) For 3,3'-Dichlorobenzidine and its salts.
(93) Based on the Public Health Goal for Benzo(a)pyrene in drinking water and potency equivalency factors (PEFs) for selected polynuclear aromatic hydrocarbons (PAHs) on page 109 of Reference 31.
(94) Carcinogen; criterion based on cancer risk. Criterion refers to the inorganic form only.
(95) For the pentavalent form.
(96) EC50 for eastern oyster embryos.
(97) Expressed as total recoverable; this National Toxics Rule criterion applies to SF Bay through Susuin Bay and Sacramento-San Joaquin Delta, Salt Slough, Mud Slough (north), and San Joaquin River,Sack Dam to mouth of Merced River; the California Toxics Rule applies this criterion to all other inland California waters; does not apply to Grassland Water District, San Luis National Wildlife Refuge, and Los Banos State Wildlife Refuge; see reference 23.
(98) For total residual chlorine.
(99) For sum of chlorine-produced oxidants.
(100) First number for Radium-226; second number for Radium-228.
(101) MFL = million fibers per liter; limited to fibers longer than 10 um.
(102) Calculated from published oral Cancer Potency Slope Factor using assumptions of 70 kg body weight and 2 liters/day water consumption.
(103) As nitrogen (N); in addition, limit for total nitrate + nitrite = 10,000 ug/L (as N).
(104) Based on endosulfan; USEPA Water Quality Advisory; Reference 13.
(105) Treatment Technique: Not to exceed 0.05% monomer in polyacrylamide when dosed at 1 mg/L for drinking water treatment.
(106) For five haloacetic acids (sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid).
(107) Unleaded; value for benzene.
(108) The level for noncancer health effects is also considered adequately protective of public health for cancer by the oral route of exposure, on the basis of the nonlinear dose response for this chemical and the mode of action for both cancer and noncancer effects having a common link through cytotoxicity.
(109) Optimal fluoride level and (range) vary with annual average of maximum daily air temperature; 50.0 to 53.7 degrees F - 1.2 (1.1 to 1.7) mg/L; 53.8 to 58.3 degrees F - 1.1 (1.0 to 1.7) mg/L; 58.4 to 63.8 degrees F - 1.0 (0.9 to 1.5) mg/L; 63.9 to 70.6 degrees F - 0.9 (0.8 to 1.4) mg/L; 70.7 to 79.2 degrees F - 0.8 (0.7 to 1.3) mg/L; 79.3 to 90.5 degrees F - 0.7 (0.6 to 1.2) mg/L.
(110) Picocuries per liter; including Radium-226 but excluding Radon and Uranium.
(111) MCL includes this "Action level" to be exceeded in no more than 10% of samples at the tap.
(112) Listed criterion expressed as unionized ammonia; criteria based on total ammonia are shown on Inorganics Page 14.
(113) Based on carcinogenicity at 1-in-a-million risk level.
(114) Developed as 24-hour average usinig 1980 USEPA Guidelines; but applied as 4-day average in the National Toxics Rule, reference 22.
(115) Criterion most appropriately applied to the sum of alpha-Endosulfan and beta-Endosulfan. Reference 26.
(116) Applies separately to Aroclors 1016, 1242, 1254, 1221, 1232, 1248, and 1260; based on carcinogenicity at 1-in-a-million risk level.
(117) Effluent limitation for wastes discharged to waters.
(118) For the sum of Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.
(119) Cancer classification not supported by ingestion data.
(120) For isomers with chlorines in 2,3,7 and 8 positions.
(121) Cancer risk may not be linear with dose above 60 ug/L.
(122) For the oxide form.
(123) For the pentoxide form.
(124) For the gas phase.
(125) Applies to first value if more than one individual value is listed. Applies to the range if a range of values is listed. From Reference 7.
(126) Applies to second value if more than one value listed. Water-dilution odor threshold calculated from air odor threshold using equilibrium distributions. From Reference 29
(127) For protection of consumers of marine moluscs.
(128) Virtually free from oil and grease, particularly from the tastes and odors that emanate from petroleum products.
(129) 0.01 of the lowest continuous flow 96-hour LC50 to several important freshwater and marine species, each having a demonstrated high susceptibility to oils and petrochemicals; surface waters shall be virtually free from floating nonpetroleum oils of vegetable or animal origin, as well as petroleum derived oils.
(130) Waters shall be virtually free from substances producing objectionable color for aesthetic purposes; the source of supply should not exceed 75 color units on the platinum-cobalt scale for domestic water supplies.
(131) Increased color, in combination with turbidity (suspended and settleable solids) should not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life.
(132) For open ocean waters where depth is substantially greater than euphotic zone, pH should not be changed > 0.2 units from naturally occurring variation or in any case outside of range 6.5 to 8.5. For shallow highly productive coastal and estuarine areas where naturally occurring pH variations approach the lethal limits of some species, change in pH should be avoided but in any case should not exceed limits for freshwater., i.e., 6.5 to 9.0.
(133) For chlorides and sulfates in domestic water supplies.
(134) Withdrawn.
(135) Expressed as total recoverable; may be converted to a value expressed as dissolved by multiplying the maximum criterion by 0.996 and the continuous criterion by 0.922. The Maximum Concentration is equal to 1/ [(f1/185.9) + (f2/12.83)], where f1 and f2 are the fractions of total selenium that are treated as selenite and selenate, respectively.
(136) Draft Chronic Criterion: The concentration of selenium in whole-body fish tissue should not exceed 7.91 ug/g dw (dry weight). In addition, if whole-body fish tissue concentrations exceed 5.85 ug/g dw during summer or fall, fish tissue should be monitored during the winter to determine whether the selenium concentration exceeds 7.91 ug/g dw.
(137) Expressed as free cyanide (as CN).
(138) Not toxic to aquatic organisms at or below the solubility limit of this chemical. Reference 26.

F O O T N O T E S

(139) The derivation of this criterion did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels. Reference 26.
(140) Criterion derived from data for inorganic mercury (II), but is applied to total mercury. It will probably be underprotective if a substantial portion of mercury in the water column is methylmercury. Derivation of criterion did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels. Reference 26.
(141) See Reference 16.
(142) Criteria do not apply to waters subject to water quality objectives in Tables III-2A and III-2B of the San Francisco Bay Regional Water Quality Control Board's 1986 Basin Plan. See Reference 17.
(143) These criteria were promulgated for specific California waters in the National Toxics Rule, Reference 23.
(144) Monitoring required for "2,3,7,8-TCDD Equivalents" calculated as the sum of the concentrations of each 2,3,7,8-chlorinated dibenzodioxin and 2,3,7,8-chlorinated dibenzofuran multiplied by the corresponding toxic equivalency factors (TEFs); see page 28 of Reference 27.
(145) Treatment Technique: Not to exceed 0.01% residual when dosed at 20 mg/L for drinking water treatment.
(146) Provisional reference dose or cancer slope factor from USEPA Superfund Program. Not from IRIS. See Reference 34.
(147) The date is not the adoption date, but rather the date on which the limit was reaffirmed.
(148) The sum of aldicarb, aldicarb sulfoxide and aldicarb sulfone should not exceed 7 ug/L because of similar mode of action. Administrative stay of the effective date.
(149) Carcinogen; limit based on cancer risk; for water-soluble PCBs expected to be found in drinking water.
(150) Applies to the lithium salt.
(151) Criterion derived by the California Department of Fish and Game; not a national recommended criterion. Applies to first value if more than one value is listed. From Reference 32.
(152) Interim criterion derived by the California Department of Fish and Game; not a national recommended criterion. Applies to first value if more than one value is listed. From Reference 32.
(153) 10 ug/L for neonatal infant boys age 0 to 28 days. 49 ug/L for infant boys age 29 days to 24 months. 205 ug/L for adults.
(154) If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a Criteria Maximum Concentration (1-hour average). See Reference 26.
(155) Cancer Class D based on oral exposure data; Cancer Class A based on inhalation exposure data.
(156) First value based on exposure from birth; second value based on adult exposure only.
(157) Action Level temporarily at 1-in-100,000 risk level.
(158) This limit covers the parent compound (thiobencarb), its chlorobenzyl and chlorophenyl moiety-containing degradation products and oxidation products such as thiobencarb sulfoxide, thiobencarb sulfone, and 4-chlorobenzosulfonic acid.
(159) Effective 8 December 2003 for all community water systems.
(160) Based on June 1995 IRIS oral reference dose with a relative source contribution of 40 percent.
(161) Concentration in fish or shellfish tissue.
(162) For natural uranium. Value is equal to 0.43 pCi/L.
(163) Values based on different toxicologic studies.
(164) For soluble salts.
(165) First value for aroclor 1016; second value for aroclor 1254.
(166) Value modified using more recent information in USEPA Integrated Risk Information System (IRIS). See Reference 3.
(167) Value modified using more recent information in USEPA Office of Pesticide Programs Registration Eligibility Decisions Documents. From Reference 36.
(168) Reference dose published in USEPA Office of Pesticide Programs Registration Eligibility Decisions Documents. Limit assumes 70 kg body weight, 2 liters/day water consumption, and 20% relative source contribution from drinking water. An additional uncertainty factor of 10 is used for Class C and S carcinogens. From Reference 36.
(169) Measured as free chlorine.
(170) From Reference 10.
(171) Beta/photon MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ; Sr-90 MCL = 4 mrem/yr to bone marrow; Tritium MCL = 4 mrem/yr to total body.
(172) Applies to DDT and its metabolites (i.e., the total concentration of DDT and its metabolites should not exceed this value).
(173) Applies to total PCBs (e.g., sum of all congener or all isomer or homolog or Aroclor analyses).
(174) Second limit is for the hydrochloride or dihydrochloride salt.
(175) Measured as Cl2. Maximum residual disinfectant level.
(176) Measured as ClO2. Maximum residual disinfectant level.
(177) For technical or commercial grade chemical.
(178) In addition, the Average Primary Producer Steinhaus Similarity deviation for a site is less than 5% (as determined using Comprehensive Aquatic Systems Model (CASM) or other appropriate model and index) and is not exceeded more than once every three years (or other appropriate return frequency sufficient to allow system recovery). The 5% index for the protection of aquatic plant community should also be protective of most freshwater animals (chronic criterion).
(179) This criterion is for a 30-day average, rather than 4-day average.
(180) Acute and chronic aquatic life criteria are calculated using the Biotic Ligand Model, a metal bioavailability model. See Reference 25.
(181) Criterion expressed as total cyanide, even though IRIS RfD used to derive criterion based on free cyanide. The multiple forms of cyanide present in ambient water have significant differences in toxicity due to differing abilities to liberate CN-moiety. Some complex cyanides expected to have little or no bioavailability to humans. If a substantial fraction of cyanide present in water body is present in complexed form (e.g., Fe4[Fe(CN)6]3), this criterion may be over conservative.
(182) Includes a 3-fold modifying factor to account for increased bioavailability from drinking water. From Reference 3.
(183) Carcinogenic to humans by inhalation route.
(184) Limit is "non-corrosive".
(185) MCL Goal is set at "zero".
(186) Limit is less than the numerical value shown.
(187) Limit is greater than the numerical value shown.
(188) Carcinogen; limit based on cancer risk.
(189) Reproductive toxin; limit based on reproductive toxicity.
(190) Not practical to adopt a limit for this parameter because a variety of radionuclides may be responsible. See limits for individual radionuclides. OEHHA has determined that the MCL for this parameter is associated with a cancer risk "far in excess of the de minimis risk level" of one-in-a-million for lifetime cancer risks.
(191) First number is the Notification Level, above which local government notification is required and customer notification is recommended. Second number is the Response Level, at which the drinking water source is recommended to be taken out of service.
(192) Cancer risk at Notification Level is 1 in 100,000. 1 in 1,000,000 cancer risk at 0.001 ug/L.
(193) Cancer risk at Notification Level is 2 in 1,000,000. 1 in 1,000,000 cancer risk at 0.005 ug/L.
(194) Based on dental fluorosis in children, a cosmetic effect.
(195) Based on skeletal fluorosis.
(196) Value modified using more recent information in USEPA Integrated Risk Information System (IRIS) for mercuric chloride, but with cancer class "D" from earlier health advisory. See Reference 3.
(197) Cancer Class I based on oral exposure data; Cancer Class L based on inhalation exposure data.
(198) Cancer risk is likely to be no more than that of Bis(chloromethyl)ether (BCME), a contaminant of Chloromethyl methyl ether (CMME).
(199) Draft acute exposure criterion. In addition, the 24-hour average selenate concentration in ug/L should not exceed the numerical value given by exp(0.5812[ln(sulfate)]+3.357), where sulfate is expressed in mg/L.
(200) Acute criterion for selenite.
(201) Limit assumes the default Relative Source Contribution of 20% exposure from drinking water (and 80% from other sources). Toxicologists with the Cal/EPA Office of Environmental Health Hazard Assessment have stated that this is not a valid assumption for this chemical and that a much higher RSC should be used. Such a change would result in a limit higher than the current drinking water standard for total chromium.

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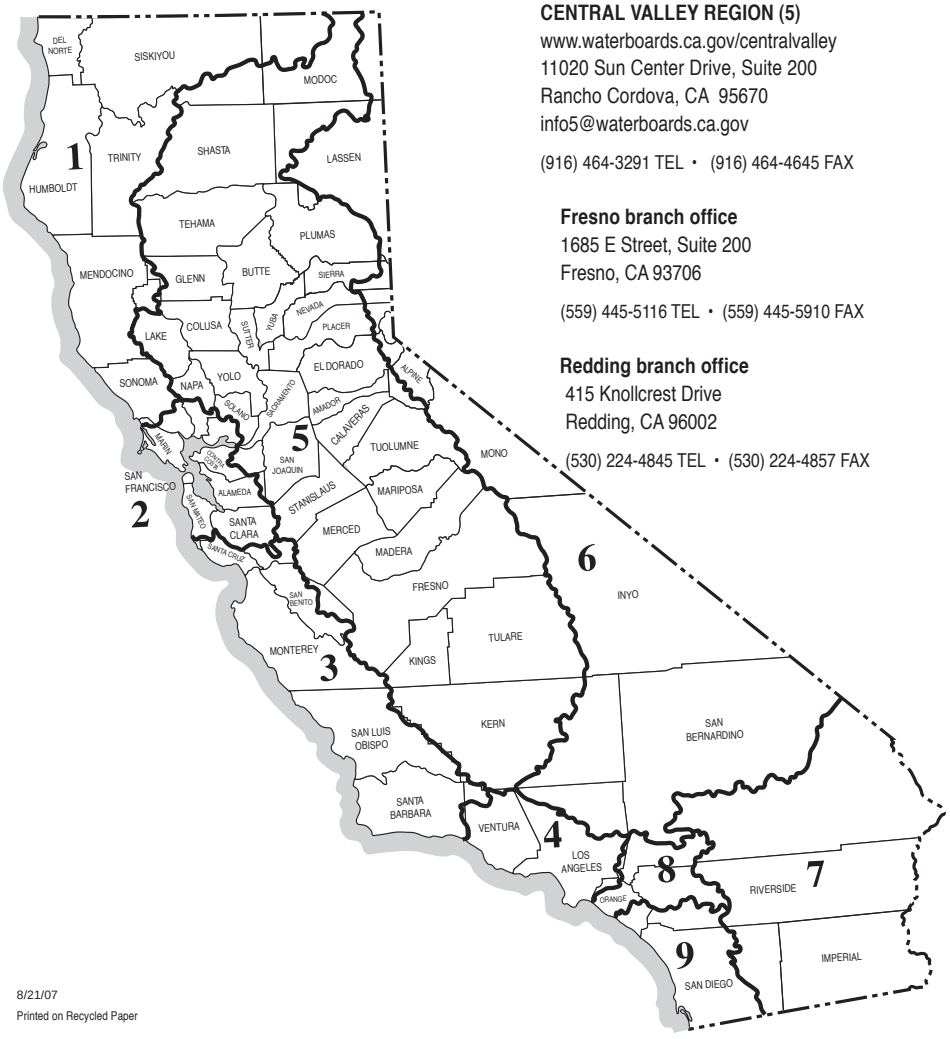

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